

## **Appendices**

### **Chevron Carpinteria Oil and Gas Facility Decommissioning Project**

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## **Appendix A**

### **Project Design Information**

## **Appendix A – Project Design Information**

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## Carpinteria Oil & Gas Plant Inventory August 2020 (updated March 2021)

Operational Area	Plant Area No. (if Applicable)	Type	Equipment No.	Equipment Description	Dimension	Quantity	System/Comment	On Map
<b>Buildings, Concrete Pads, Asphalt, Misc.</b>								
Main Plant Area	9	Building	IR Bldg	IR Compressor Building	30' X 170' X 27'	5,100 SQFT	Cinder block construction, 188' long x 17' high cinder block wall at NE corner and along east side of building with (4) 6' gaps and (1) 8' gap (156' total linear feet x 17' high) and (6) 8' X 13' high cinder block partitions; Buidling has 44" high perimeter footing above ground surface and 18" X 18" support columns on 15' centers that correlate to (11) rebar and concrete reinforced A-frame supports; A-frame supports are 14" X 18" at eye level that increase in thickness vertically; (2) 1' X 6" X ~170' I-beams run the length of the building; Metal grating covers approx 75% of the raised floor and pier supported concrete and (5) compressor footings cover the remaining surface area; metal grating walkway extends 6' from west wall; (2) 10' X 10' doors located on either end of bldg (1) metal and (1) wood; 5' X 5' circulation fans located in wood / metal siding at south end of bldg; (6) standard metal doors; (6) IR Compressors	
Main Plant Area	10	Building	Cooper Bldg	Cooper Compressor Building	30' X 48' X 24'	1,440 SQFT	Cinder block contrsuction, but north wall is wood siding and 10' X 12' rollup door; (4) 8" X 12" I-Beam A-Frames from N-S; (2) 4" X 12" I-Beam N-S; (1) 4" X 12" I-Beam E-W, (2) 6" X 6" lateral support I-beams N-S, Cooper Compressor rests on massive concrete foundation 7' X 20'; (3) metal doors, Two (2) control panel Units 1.5' X 4' x 6.5' and 1' X 3' X 6' located within next to Lube Oil tank.	
Main Plant Area	10	Building	M-Cooper Bldg	Mini-Cooper Silencer Building	8' X 11' X 10'	88 SQFT	Cinder block contrsuction; (1) standard door; concrete floor	
Main Plant Area		Building	Cntrl Bldg	Control Building	24' X 67' X 10'	1,608 SQFT	Cinder block contrsuction; (5) double wide doors and (3) standard doors; 50'L X 5'W awning with metal supports; 20' X 20' sheet metal awning with metal supports	
Main Plant Area		Building		Control Building Leg	5' X 8' X 8'		Extension at NW corner of Cntrl Bldg, three cinder block walls with flat metal/wood roof	
Shop and Maintenance Area		Building	Maint Shop	Maintenance Shop	30' X 100' X 12'	3,000 SQFT	I-Beam A-Frames (4) from E-W, (8) metal lateral support beams from N-S, shallow pitched roof to support narrow second story office area; Sheet metal siding and roof; 30' X 5' wood and sheet metal awning and 21' X 11' sheet metal awning with post supports; (4) 10' X 10' metal rollup doors; (8) 3' x 7' metal doors, concrete floor, a 2,000-lb. jib crane is located at SW corner adjacent canopy.	X
Shop and Maintenance Area		Building	Covering East / Weld Shp West	Welding Shop Area Coverings	23' X 34', 24' X 40'	1,742 SQFT	(W) 3-4" metal pipe framing on ~5' centers N-S, sheet metal roof; (E) I-beam framing (4) 3" X 12" X 23' I-beams N-S and (8) 2" X 5" X 35' C-beams E-W; sheet metal roof;	X
Chevron Pipeline Area		Building	CPL-Bldg	Pipeline Office	15' X 34' X 10.5'	510 SQFT	Cinder block contrsuction; 37 of the 98 linear feet of building is metal framing, glass windows, and doors; 23' X 25' metal roof/awning; 20'L X 10'H attached cinder block screens, 3' X 9' x 7' Electrical panelboard located within.	X

Chevron Pipeline Area		Building		Stormwater Sump and Canopy	10' X 15'		Canopy covers XXX-gal concrete sump and motor/pump, (4) 8' metal posts	X
Former Marketing Terminal Area		Building	Annex Office	Shorebase Office Bldg	13' X 83' X 10'	1,079 SQFT	Metal siding, roof extends 2' beyond buldg footprints; (5) metal doors and (7) 5' X 5' windows, wood and drywall build out, LBP and potential ACM	
Former Marketing Terminal Area		Building	Annex Wrhse	Shorebase Warehouse Bldg	19' X 70' X 15'	1,330 SQFT	Metal siding, (2) 12' X 14' rollup doors at either end, concrete floor, LPB and potential ACM	
Shop and Maintenance Area		Building	Kiosk	Guard Kiosk	7' X 12' X10'	84 SQFT	Metal Construction shell rests on minimum 6 concrete footings, glass windows on west end	
MSRC Lease Area		Building	MSRC Offc / Conf Bldgs	MSRC Office / Conference Bldgs	60' X 48' X 12'	2880 SQFT	Metal siding and steel beam construction "Butler building", Concrete slab foundation, (2) 10' X 10' metal rollup doors, (1) 3' X 7' standard door; Conference Bldg has wood and drywall build out, galley and 2 restrooms; 20' X 35' sheet metal roofed awning with wood framing and steel support posts, plywood south wall with steel door; 10' X 25' sheet metal roofed awning with wood framing and support posts	
MSRC Lease Area		Building	MSRC Maint Shop	MSRC Maintenance Shop	25' X 30' X 16'	975 SQFT	Metal siding and steel beam construction "Butler building", Concrete slab foundation, (1) 10' X 10' metal rollup doors, (1) 6' X 7' double door, loft, wood and paneling build out, 4' X 15' sheet metal awning	
MSRC Lease Area		Building	MSRC Fab / Strge Bldg	MSRC Fabrication and Storage Building	15' X 80' X 16'	1,200 SQFT	Metal siding and steel beam construction "Butler building", Concrete slab foundation, (8) 15' X 15' metal rollup doors	
MSRC Lease Area		Carport	MSRC Carport	Carport	25' X 35' X 15'	875 SQFT	Metal shell and framing with pitched roof, Concrete slab foundation	
Casitas Pier		Building	Pier OB-1	Pier Out-Building #1	20' X 10'	200 SQFT		
Casitas Pier		Building	Pier OB-2	Pier Out-Building #2	15' X 8'	120 SQFT		
Casitas Pier		Building	Pier OB-3	Pier Out-Building #3	11' X 7'	77 SQFT		
Main Plant Area		Concrete		Concrete, Plant		7,782 SQYD	Inside Plant area only	
Main Plant Area		Asphalt		Asphalt, Plant		25,802 SQYD	Inside Plant area only	
Former Marketing Terminal Area		Asphalt		Asphalt, Dump Rd. to RR Tracks		6,222 SQYD		
Former Marketing Terminal Area		Asphalt		Asphalt, Shorebase		4,000 SQYD		
Pier Parking Lot		Asphalt		Asphalt, Pier Area from RR Tracks		7,405 SQYD		
		Concrete		Concrete, Castias Pier			Causeway: 20' x 30' = 600' x 13' = 7800 SF. Pier: 152' x 44.5' = 6764 SF  Total SF: 14, 564.	
		Fire Hydrants		Fire Hydrants		9		
		Fire Hose Reels		Fire Hose Reels		25		
		Deluge Sprinklers		Deluge Sprinklers		6		
		UG Firewater Piping		Underground Firewater Piping		5,300'	Pier firewater tied into Plant system	
		Storm Drains		Stormwater Drains		5		
		Towers		Towers		1	Wind/Weather, 40', next to plant control room	
		Light Towers		Light Towers		27		
		Concrete Vessel Supports		Concrete Vessel Supports		1,000 CUFT		
		Concrete Vertical Pipe Supports		Concrete Vertical Pipe Supports		24	18" x 18" x 15' HT	
		Power Poles		Power Poles		12		
				<b>Compressors/Pumps/Filters</b>				
Main Plant Area	9	Compressor	IR-1	Ingorsoll Rand - IC Engine	10' x 25'	1	Gas Processing System, IR Compressor Building	
Main Plant Area	9	Compressor	IR-2	Ingorsoll Rand - Electric	10' x 25'	1	Gas Processing System, IR Compressor Building	
Main Plant Area	9	Compressor	IR-3	Ingorsoll Rand - IC Engine	10' x 25'	1	Gas Processing System, IR Compressor Building	
Main Plant Area	9	Compressor	IR-4	Ingorsoll Rand - IC Engine	10' x 25'	1	Gas Processing System, IR Compressor Building	
Main Plant Area	9	Compressor	IR-5	Ingorsoll Rand - IC Engine	10' x 25'	1	Gas Processing System, IR Compressor Building	

Main Plant Area	9	Compressor	IR-6	Ingorsoll Rand - IC Engine	10' x 25'	1	Gas Processing System, IR Compressor Building	
Main Plant Area	10	Compressor	K-3	COOPER BESSEMER COMPRESSOR	10 x 30'	1	Gas Processing System, Cooper Compressor Building	
Main Plant Area	10	Compressor	K-30 (C-1)	AIR COMPRESSOR	5' x 5'	1	Utility Air, Cooper Compressor Bldg.	
Main Plant Area	9	Compressor	K-40 (C-2)	AIR COMPRESSOR	5' x 5'	1	Utility Air, Main Compressor Bldg.	
Main Plant Area	9	Compressor	K-50 (C-3)	AIR COMPRESSOR	5' x 5'	1	Utility Air, Main Compressor Bldg.	
Chevron Pipeline Area		Pump	P-1	WATER SKIM PUMP, T861	5' x 5'	1	T861, 20hp, 440 V	
Main Plant Area	6	Pump	P-17	COOLING WATER PUMP	5' x 5'	1	Therminol System, 3 HP, 230 V	
Main Plant Area	6	Pump	P-22A	THERMINOL CIRCULATION PUMP	5' x 5'	1	Therminol System,15 HP, 230 V	
Main Plant Area	6	Pump	P-22B	THERMINOL CIRCULATION PUMP	5' x 5'	1	15 HP, 230 V	
Main Plant Area	3	Pump	P-28	PIPELINE BOTTOM PUMP	5' x 5'	1	LACT UNIT	
Main Plant Area	9	Pump	P-31	IR 1 & 2 JACKET WATER PUMP	5' x 5'	1	IR Compressor Building	
Main Plant Area	9	Pump	P-32	IR 3 JACKET WATER PUMP	5' x 5'	1	IR Compressor Building	
Main Plant Area	9	Pump	P-33	IR 4 JACKET WATER PUMP	5' x 5'	1	IR Compressor Building	
Main Plant Area	9	Pump	P-34	IR 5 JACKET WATER PUMP	5' x 5'	1	IR Compressor Building	
Main Plant Area	9	Pump	P-35	IR 6 JACKET WATER PUMP	5' x 5'	1	IR Compressor Building	
Chevron Pipeline Area		Pump	P-4	SHIPPING PUMP	5' x 10'	1	T-861 Shipping Pump	X
Chevron Pipeline Area		Pump	P-5	SHIPPING PUMP	5' x 10'	1	T-861 Shipping Pump	X
Chevron Pipeline Area		Pump	P-42	SKIM OIL RECYCLE PUMP	5' x 5'	1	T1 & T1 Waste Water System, 7.5 HP, 230 V	
Chevron Pipeline Area		Pump	P-5090	CENTRIFUGAL PUMP	5' x 5'	1	T-861, 12,000GPM, 350 HP, 480 V	
Main Plant Area	9	Pump	P-52	GLYCOL STRIPPER FEED PUMP	5' x 5'	1	Glycol Regeneration System, 6 GPM	
Main Plant Area	9	Pump	P-53	GLYCOL STRIPPER FEED PUMP	5' x 5'	1	Glycol Regeneration System, 6 GPM	
Main Plant Area	9	Pump	P-56	GLYCOL CIRCULATION PUMP	5' x 5'	1	Glycol Regeneration System, 6 GPM	
Main Plant Area	9	Pump	P-57	GLYCOL CIRCULATION PUMP	5' x 5'	1	Glycol Regeneration System, 6 GPM	
Chevron Pipeline Area		Pump	P-FS	FIELD SERVICES SUMP PUMP	5' x 5'	1	T1 & T2 Waste Water System	X
				<b>Vessels</b>				
Main Plant Area	6	Vessel	V-13	FREE WATER KNOCKOUT	8' OD X 37'	1	VRU System	X
Main Plant Area	6	Vessel	V-61	DRIP POT	16" X 3'	1	Glycol Regeneration System	
Main Plant Area	6	Vessel	V-530	GLYCOL FLASH DRUM	20" X 10'	1	Glycol Regeneration System	X
Main Plant Area	6	Vessel	V-16	BLOW DOWN	8' OD X 28'	1	VRU System	
Main Plant Area	9	Vessel	V-2	LOW VAPOR RECIEVER	24" X 9'	1	Gas Processing System	
Main Plant Area	9	Vessel	V-3	HI VAPOR INTAKE SCRUBBER	48" X 10'	1	VRU System	
Main Plant Area	9	Vessel	V-4	LOW PRESSURE INTAKE SCRUBBER	3' X 10'	1	Gas Processing System	
Main Plant Area	9	Vessel	V-5	LOW FIELD 500# DISCHARGE SCRUBBER	48" X 10'	1	Gas Processing System	
Main Plant Area	9	Vessel	V-6	LTS INTAKE SCRUBBER	5' X 12'	1	Gas Processing System	
Main Plant Area	9	Vessel	V-7	H. P. INTAKE SCRUBBER	36" X 10'	1	Gas Processing System	
Main Plant Area	9	Vessel	V-9	ACCUMULATOR	16' X 4'	1	Gas Processing System	
Main Plant Area	9	Vessel	V-50	PULSATION DAMPENER	2' X 20'	1	Gas Processing System	
Main Plant Area	9	Vessel	A-RECEIVER	AIR PRESSURE TANK	30" DIA x 17' HT	1	Compressor Utility System	
Main Plant Area	9	Vessel	B-RECEIVER	AIR PRESSURE TANK	30" DIA x 17' HT	1	Compressor Utility System	
Main Plant Area	9	Vessel	C-INSTRUMENT AIR	AIR PRESSURE TANK	20" DIA x 17' HT	1	Compressor Utility System	
Main Plant Area	9	Vessel		Vessel	24" DIA X 17 HT		Gas Processing System	
Main Plant Area	9	Vessel		Vessel	24" DIA X 17 HT		Gas Processing System	
Main Plant Area	9	Vessel		Vessel	24" DIA X 17 HT		Gas Processing System	
Main Plant Area	9	Vessel		Vessel	24" DIA X 17 HT		Gas Processing System	
Main Plant Area	9	Vessel		Vessel	24" DIA X 17 HT		Gas Processing System	
				<b>Heat/Air Exchangers/Coolers/Heaters/Dryers</b>				
Main Plant Area	9	Fin Fan	E-20	OIL COOLING FAN	6' X 14'	1	Compressor Utility System	
Main Plant Area	9	Fin Fan	E-28	OIL COOLING FAN	6' X 14'	1	Compressor Utility System	
Main Plant Area	9	Cooler	E-50	Air Discharge Cooler	4' X 5.5' X 4'	1	Compressor Utility System, 30" high metal frame support, LBP?	
Main Plant Area	9	Reboiler	E-109	GLYCOL CIRCULATION REBOILER	15" X12'	1	Glycol Rengeneration System	
Main Plant Area	9	Heat Exchanger	E-115	HEAT EXCHANGER	15" X 24'	1	Gas Processing System	
Main Plant Area	9	Heat Exchanger	E-117	GLYCOL PIPE JACKET HEAT EXCHANGER	6' X 14'	1	Gas Processing System	
Main Plant Area	9	Fin Fan	E-118	COOLING FAN	6' X 14'	1	Gas Processing System	
Main Plant Area	9	Fin Fan	E-119	COOLING FAN	6' X 14'	1	Gas Processing System	

Main Plant Area	9	Cooler	E-140	100# DISCHARGE COOLER	6' X 14'	1	Gas Processing System	
Main Plant Area	9	Cooler	E-160	LOW FIELD 500# DISCHARGE COOLER	6' X 14'	1	Gas Processing System	
Main Plant Area	9	Cooler	E-180	LOW FIELD 500# DISCHARGE COOLER	6' X 14'	1	Gas Processing System	
Main Plant Area	6	Heater	H-101	THERMINOL HEATER	8' X 20'	1	Therminol System	
Main Plant Area	9	Vessel		IR 1 HEAT EXCHANGER VESSEL	2' DIA x 6' Long	1	Compressor Utility System, vessels connected to 10-inch steel pipe, set in 5.5' X 3.5' x 3' rack comprised of 4.5" steel pipe, LBP?	
Main Plant Area	9	Vessel		IR 3 HEAT EXCHANGER VESSEL	2' DIA x 6' Long	1	Compressor Utility System, vessels connected to 10-inch steel pipe, set in 5.5' X 3.5' x 3' rack comprised of 4.5" steel pipe, LBP?	
Main Plant Area	9	Vessel		IR 5 HEAT EXCHANGER VESSEL	2' DIA x 6' Long	1	Compressor Utility System, vessels connected to 10-inch steel pipe, set in 5.5' X 3.5' x 3' rack comprised of 4.5" steel pipe, LBP?	
Main Plant Area	9	Vessel		IR 6 HEAT EXCHANGER VESSEL	2' DIA x 6' Long	1	Compressor Utility System, vessels connected to 10-inch steel pipe, set in 5.5' X 3.5' x 3' rack comprised of 4.5" steel pipe, LBP?	
Main Plant Area	9	Vessel		IR 1 HEAT EXCHANGER VESSEL	2' DIA x 8' Long	1	Compressor Utility System, vessels connected to 10-inch steel pipe, steel mesh protective cages at 2 locations, LBP?	
Main Plant Area	9	Vessel		IR 3 HEAT EXCHANGER VESSEL	2' DIA x 8' Long	1	Compressor Utility System, vessels connected to 10-inch steel pipe, steel mesh protective cages at 2 locations, LBP?	
Main Plant Area	9	Vessel		IR 5 HEAT EXCHANGER VESSEL	2' DIA x 8' Long	1	Compressor Utility System, vessels connected to 10-inch steel pipe, steel mesh protective cages at 2 locations, LBP?	
Main Plant Area	9	Vessel		IR 6 HEAT EXCHANGER VESSEL	2' DIA x 8' Long	1	Compressor Utility System, vessels connected to 10-inch steel pipe, steel mesh protective cages at 2 locations, LBP?	
Main Plant Area	9	Vessel		IR 4 HEAT EXCHANGER VESSEL	2.5' DIA x 10' Long	1	Compressor Utility System, vessel connected to 10-inch steel pip, LBP?	
Main Plant Area	9	Exhaust		Air Exhaust	2.5' X 2.5' X 1.5'	5	4 way screened intake unit connected to 10-inch steel pipe	
				<b>Pipeways/Tanks</b>				
		Pipeline		Small (<6") AG Line		16,000'		
		Pipeline		Small (<6") BG Line		TBD'	TBD	
		Pipeline		Large (>=6") AG Line		6,500'		
		Pipeline		Large (>=6") AG Line		TBD'	TBD	
		Pipeline		Small (<6") AG Insulated Line		2,000'		
		Pipeline		Large (>=6") AG Insulated Line		900'		
Main Plant Area	6	Tank	T-102	GLYCOL SURGE TANK	15" X 10'		Glycol Regeneration System	
Main Plant Area	6	Tank	T-103	EXPANSION TANK	4' X 8'		Therminol System	
Chevron Pipeline Area		Tank	T-1	WASTE WATER TANK	30' DIA x 10' HT		Waste Water System, 2000 BBL	X
Chevron Pipeline Area		Tank	T-2	WASTE WATER TANK	30' DIA x 10' HT		Waste Water System, 2000 BBL	X
Main Plant Area	3	Tank	T-25380	WASTE WATER TANK	35' DIA X 30' HT		Chevron Pipeline Area	X
Chevron Pipeline Area		Tank	T-861	STORAGE TANK, Floating Roof	180' DIA X 48' HT		Crude Oil Shipping Syste, 217,000 BBL	X
Main Plant Area	9	Tank		Lube Oil Tank	5' DIA X 5' HT		IR Compressors, rests on 9' X 9' elevated bolted metal frame platform, +55-gal drum of compressor oil	
Main Plant Area	10	Tank		Lube Oil Tank	3' DIA X 15' Long		Cooper Compressor, rests on 8' L X 2' W x 9' H rack	
Chevron Pipeline Area		Tank	CF-185-5	Foam Tank	42" DIA X 10' HT		Red Foam tank on concrete padf, connected to 4.5" pipe (13') and 3.5" pipe (10')	X
Shop and Maintenance Area		Tank	AST-Diesel	Diesel Fuel AST	3.5'L X 4'W X 4'HT		350-gal capacity AST to contain Diesel Fuel	
Chevron Pipeline Area		Tank	AST-MS	Above Ground Storage Tank	3.5'L X 4'W X 4'HT		350-gal capacity AST to contain Mineral Spirits, in concrete secondary containment	X
				<b>Electrical</b>				
Main Plant Area		Electrical Cabinet	E-8 (MCC-1)	Electrical Cabinet	8' X 4' X 8'		High Voltage, Electrical Cabinet on concrete slab	
Main Plant Area		Sub-station		Sub-Station and Chain link pen	30' X 30' X 10'		Sub-Station with metal framing on concrete slab, High Voltage	
Main Plant Area	10	Electrical Cabinet	E-1 (MCC-2)	Electrical Cabinet	30' X 4' X 8'		Electrical Cabinet, High Voltage	
Main Plant Area	10	Generator		Backup Generator	15' X 6' X 7'		Generator on concrete slab	

Main Plant Area	7/8	Electrical Cabinet	E-4 (MCC-3)	Electrical Cabinet	13' X 4' X 8'		High Voltage, Electrical Cabinet on concrete slab	
Main Plant Area	7/8	Chain Link Pen		Sub-Station and Chain link pen	30' X 13' X 10'		(3) transformers with PCB-containing oils; and substation on concrete slab inside the chain link fence pen	
Main Plant Area	7/8	Shed		Shed	15' X 10' X 8'		Corrugated metal roof and walls with metal angle iron and pipe framing	
Main Plant Area	8	Electrical Cabinet	E-3 (MCC-4)	Electrical Cabinet	10' X 4' X 8'		High Voltage, Electrical Cabinet on concrete slab	
Main Plant Area	8	Electrical Cabinet		Electrical Cabinet	8' X 5' X 9'		High Voltage, Electrical Cabinet on concrete slab	
Main Plant Area	8	Transformer		Transformer (1)	7' x 7' x 6'		(1) transformer on concrete slab,	
		Canopy		Metal Canopy	11' X 11' X 8'		with 11' X 11' X 8' metal canopy constructed of (4) 4.5-inch diameter X 8' vertical support pipes and roof contains (7) 3-inch diameter X 11' pipe	
Main Plant Area	10	Electrical Cabinet	E-7 (MCC-5)	Electrical Cabinet	9' X 4' X 8'		North of Control Room, Electrical Cabinet on concrete slab	
Chevron Pipeline Area		Chain Link Pen	E-12 (CPL Electrical Equipment)	Electrical Cabinet	11' X 5' X 8'		On concrete slab	X
Chevron Pipeline Area		Chain Link Pen		Electrical Cabinet	5' X 2' X 8'		On concrete slab	X
Chevron Pipeline Area		Chain Link Pen		Electrical Cabinet	6' X 3' X 7'		On concrete slab	X
Chevron Pipeline Area		Transformer		(5) Transformers			(3) large transiomers (similar to MCC-3), (1) transformer 6' X 3' X 4.5' (similar to MCC-4), and (1) 1' X 3' small can syle transformer, all on on concrete slabs	X
Chevron Pipeline Area		Chain Link Pen		Chain link pen	33' X 25' X 11'			X
Main Plant Area		Elec Cabinet	E-11 (Main Switchgear)	High Voltage	27' X 13' X 8'		High Voltage, on concrete slab with (8) 6.5-inch diameter X 6' metal pipe crash posts (4' above ground),	
Main Plant Area	8/9	Vessel	E-2	Electrical panel (I/O#1)			Electrical panel in P/L corridor between IR Builing and frm White Compressors; pitched metal frame and sheet metal roof canopy; panels mounted on post supported metal backing	
Main Plant Area	7	Elec Panel	E-5	Electrical panel			Electrical panel in fmr Gasoline Recovery Plant	
Main Plant Area	7	Elec Panel	E-6	Electrical panel			Electrical panel in fmr Gasoline Recovery Plant	
Main Plant Area	3	Elec Panel	E-9	Electrical panel			Electrical panel immediately west of tank 25380	
Main Plant Area		Elec Panel	E-10	Electrical panel			Electrical panel south of tank 25380	
Main Plant Area		Elec Panel	E-13	Electrical panel			Electrical panel immediately east of fmr Deisel Fuel UST	
Main Plant Area		Elec Panel	E-14	Electrical panel			Electrical panel in southeast corner of Site	
MSRC Lease Area		Elec Panel	E-15	Electrical panel (Abndnd)	4' X 8'			X
MSRC Lease Area		Sub-station		Sub-station			Wood and metal framing on concrete slab, no transformers	
MSRC Lease Area		Chain Link Pen		Chain link pen	20' X 20 X 11'		Electrical panel mounted on post supported metal backing	X

## **Appendix B**

### **Air Quality Calculations**



## **Appendix B – Air Quality Calculations**

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Carpinteria Oil & Gas Processing Facilities Decommissioning  
Chevron Pipeline Area

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	2	576	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.233	0.022	0.008	0.006	0.149	69.680	0.004	0.002
Wheeled loader (Caterpillar 966)	Diesel	278	2	720	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.484	0.044	0.016	0.014	0.208	84.029	0.005	0.002
Dozer (Caterpillar D6)	Diesel	215	1	120	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.054	0.005	0.003	0.003	0.041	6.441	0.000	0.000
Backhoe	Diesel	104	1	720	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.088	0.009	0.005	0.004	0.108	16.101	0.001	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	240	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.074	0.008	0.004	0.004	0.055	8.299	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	80	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.023	0.002	0.001	0.001	0.013	4.334	0.000	0.000
Boomlift	Diesel	75	1	416	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.017	0.001	0.000	0.000	0.034	5.596	0.000	0.000
Flush pump	Diesel	20	1	0	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Air compressor	Diesel	20	1	0	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive compressor	Diesel	50	1	0	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welding machine	Diesel	25	2	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge crane	Diesel	375	1	0	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug generator	Diesel	150	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug mains	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge winch	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge generators (2)	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug mains	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug generators	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel mains	Diesel	640	3	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel generator	Diesel	34	1	0	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive support vessel	Diesel	400	1	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	0	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	0	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
													0.975	0.091	0.037	0.032	0.607	194.480	0.0104	0.0050

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	2440	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0055	0.0008	0.0001	0.0001	0.0571	17.4877	0.0002	0.0004
Heavy-duty truck (equipment/piping)	25	88	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0031	0.0000	0.0000	0.0000	0.0002	3.4866	0.0000	0.0004
Heavy-duty truck (surface materials)	25	200	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0071	0.0001	0.0001	0.0001	0.0006	7.9242	0.0000	0.0008
Heavy-duty truck (surface materials-oil spray)	50	60	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0042	0.0001	0.0001	0.0001	0.0003	4.7545	0.0000	0.0005
Heavy-duty truck (soil removal-hazardous)	201	2	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0006	0.0000	0.0000	0.0000	0.0000	0.6371	0.0000	0.0001
Heavy-duty truck (soil removal-non-hazardous)	50	58	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0041	0.0001	0.0001	0.0000	0.0003	4.5960	0.0000	0.0005
Heavy-duty truck (backfill)	45	60	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0038	0.0001	0.0000	0.0000	0.0003	4.2791	0.0000	0.0004
Heavy-duty truck (flush water disposal)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Totals ==>											0.0284	0.0011	0.0004	0.0003	0.0589	43.2	0.0003	0.0031
SB County											0.0068	0.0008	0.0001	0.0001	0.0572	18.97	0.0002	0.0005
Ventura Co											0.0211	0.0003	0.0003	0.0003	0.0017	23.72	0.0000	0.0025
LA County											0.0001	0.0000	0.0000	0.0000	0.0000	0.12	0.0000	0.0000
Kern County											0.0003	0.0000	0.0000	0.0000	0.0000	0.29	0.0000	0.0000
Kings County											0.0001	0.0000	0.0000	0.0000	0.0000	0.06	0.0000	0.0000
Off-Road & On-Road Source Totals											1.003	0.092	0.038	0.032	0.666	237.6	0.0106	0.0080

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of work in the subject area

Greenhouse Gas Emissions Summary

Metric Tons	212.183	0.009	0.007
CO2E	212.183	0.265	1.895
Total CO2E			214.3

Carpinteria Oil & Gas Processing Facilities Decommissioning  
Former Marketing Terminal Area

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	2	160	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.065	0.006	0.002	0.002	0.041	19.356	0.001	0.000
Wheeled loader (Caterpillar 966)	Diesel	278	2	700	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.471	0.043	0.016	0.014	0.202	81.695	0.004	0.002
Dozer (Caterpillar D6)	Diesel	215	1	240	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.108	0.011	0.006	0.005	0.081	12.882	0.001	0.000
Backhoe	Diesel	104	1	700	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.086	0.008	0.005	0.004	0.105	15.654	0.001	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	240	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.074	0.008	0.004	0.004	0.055	8.299	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	80	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.023	0.002	0.001	0.001	0.013	4.334	0.000	0.000
Boomlift	Diesel	75	1	120	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.005	0.000	0.000	0.000	0.010	1.614	0.000	0.000
Flush pump	Diesel	20	1	0	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Air compressor	Diesel	20	1	0	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive compressor	Diesel	50	1	0	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welding machine	Diesel	25	2	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge crane	Diesel	375	1	0	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug generator	Diesel	150	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug mains	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge winch	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge generators (2)	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug mains	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug generators	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel mains	Diesel	640	3	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel generator	Diesel	34	1	0	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive support vessel	Diesel	400	1	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	0	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	0	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
													0.832	0.078	0.034	0.029	0.507	143.833	0.0076	0.0037

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	1840	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0042	0.0006	0.0000	0.0000	0.0431	13.1874	0.0002	0.0003
Heavy-duty truck (equipment/piping)	25	2	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0001	0.0000	0.0000	0.0000	0.0000	0.0792	0.0000	0.0000
Heavy-duty truck (surface materials)	25	260	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0092	0.0001	0.0001	0.0001	0.0007	10.3014	0.0000	0.0011
Heavy-duty truck (surface materials-oil spray)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-hazardous)	201	20	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0057	0.0001	0.0001	0.0001	0.0005	6.3710	0.0000	0.0007
Heavy-duty truck (soil removal-non-hazardous)	50	1864	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.1316	0.0020	0.0017	0.0016	0.0105	147.7067	0.0001	0.0154
Heavy-duty truck (backfill)	45	1884	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.1197	0.0018	0.0015	0.0014	0.0096	134.3624	0.0001	0.0140
Heavy-duty truck (flush water disposal)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Totals ==>											0.2704	0.0046	0.0034	0.0032	0.0643	312.0	0.0004	0.0314
SB County											0.0155	0.0008	0.0002	0.0002	0.0440	25.90	0.0002	0.0016
Ventura Co											0.2507	0.0037	0.0031	0.0030	0.0200	281.39	0.0002	0.0293
LA County											0.0010	0.0000	0.0000	0.0000	0.0001	1.17	0.0000	0.0001
Kern County											0.0026	0.0000	0.0000	0.0000	0.0002	2.92	0.0000	0.0003
Kings County											0.0006	0.0000	0.0000	0.0000	0.0000	0.64	0.0000	0.0001
Off-Road & On-Road Source Totals											1.102	0.082	0.037	0.032	0.571	455.8	0.0080	0.0350

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of work in the subject area

Greenhouse Gas Emissions Summary

Metric Tons	407.001	0.007	0.031
CO2E	407.001	0.200	8.291
Total CO2E			415.5

Carpinteria Oil & Gas Processing Facilities Decommissioning  
Shop and Maintenance Area

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	2	80	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.032	0.003	0.001	0.001	0.021	9.678	0.001	0.000
Wheeled loader (Caterpillar 966)	Diesel	278	2	240	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.161	0.015	0.005	0.005	0.069	28.010	0.002	0.001
Dozer (Caterpillar D6)	Diesel	215	1	80	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.036	0.004	0.002	0.002	0.027	4.294	0.000	0.000
Backhoe	Diesel	104	1	240	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.029	0.003	0.002	0.001	0.036	5.367	0.000	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	80	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.025	0.003	0.001	0.001	0.018	2.766	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	40	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.012	0.001	0.000	0.000	0.006	2.167	0.000	0.000
Boomlift	Diesel	75	1	40	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.002	0.000	0.000	0.000	0.003	0.538	0.000	0.000
Flush pump	Diesel	20	1	0	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Air compressor	Diesel	20	1	0	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive compressor	Diesel	50	1	0	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welding machine	Diesel	25	2	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge crane	Diesel	375	1	0	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug generator	Diesel	150	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug mains	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge winch	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge generators (2)	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug mains	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug generators	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel mains	Diesel	640	3	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel generator	Diesel	34	1	0	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive support vessel	Diesel	400	1	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	0	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	0	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
													0.297	0.028	0.012	0.010	0.181	52.820	0.0028	0.0013

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	600	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0014	0.0002	0.0000	0.0000	0.0140	4.3003	0.0001	0.0001
Heavy-duty truck (equipment/piping)	25	8	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0003	0.0000	0.0000	0.0000	0.0000	0.3170	0.0000	0.0000
Heavy-duty truck (surface materials)	25	286	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0101	0.0001	0.0001	0.0001	0.0008	11.3316	0.0000	0.0012
Heavy-duty truck (surface materials-oil spray)	50	10	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0007	0.0000	0.0000	0.0000	0.0001	0.7924	0.0000	0.0001
Heavy-duty truck (soil removal-hazardous)	201	2	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0006	0.0000	0.0000	0.0000	0.0000	0.6371	0.0000	0.0001
Heavy-duty truck (soil removal-non-hazardous)	50	38	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0027	0.0000	0.0000	0.0000	0.0002	3.0112	0.0000	0.0003
Heavy-duty truck (backfill)	45	40	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0025	0.0000	0.0000	0.0000	0.0002	2.8527	0.0000	0.0003
Heavy-duty truck (flush water disposal)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Totals =>											0.0182	0.0004	0.0002	0.0002	0.0154	23.2	0.0001	0.0021
SB County											0.0024	0.0002	0.0000	0.0000	0.0141	5.52	0.0001	0.0002
Ventura Co											0.0154	0.0002	0.0002	0.0002	0.0012	17.25	0.0000	0.0018
LA County											0.0001	0.0000	0.0000	0.0000	0.0000	0.12	0.0000	0.0000
Kern County											0.0003	0.0000	0.0000	0.0000	0.0000	0.29	0.0000	0.0000
Kings County											0.0001	0.0000	0.0000	0.0000	0.0000	0.06	0.0000	0.0000
Off-Road & On-Road Source Totals											0.315	0.028	0.012	0.010	0.196	76.1	0.0029	0.0034

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of work in the subject area

Greenhouse Gas Emissions Summary

Metric Tons	67.912	0.003	0.003
CO2E	67.912	0.072	0.806
Total CO2E			68.8

Carpinteria Oil & Gas Processing Facilities Decommissioning  
Marketing/Marine Terminal Pipeline Bundle

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	1	120	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.024	0.002	0.001	0.001	0.016	7.258	0.000	0.000
Wheeled loader (Caterpillar 966)	Diesel	278	1	150	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.050	0.005	0.002	0.001	0.022	8.753	0.000	0.000
Dozer (Caterpillar D6)	Diesel	215	1	16	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.007	0.001	0.000	0.000	0.005	0.859	0.000	0.000
Backhoe	Diesel	104	1	160	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.020	0.002	0.001	0.001	0.024	3.578	0.000	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	40	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.012	0.001	0.001	0.001	0.009	1.383	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	20	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.006	0.000	0.000	0.000	0.003	1.083	0.000	0.000
Boomlift	Diesel	75	1	0	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flush pump	Diesel	20	1	120	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.009	0.001	0.000	0.000	0.006	1.112	0.000	0.000
Air compressor	Diesel	20	1	100	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.007	0.001	0.000	0.000	0.005	0.927	0.000	0.000
Dive compressor	Diesel	50	1	160	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.018	0.003	0.001	0.001	0.022	2.407	0.000	0.000
Welding machine	Diesel	25	1	40	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.002	0.000	0.000	0.000	0.001	0.282	0.000	0.000
Derrick barge crane <sup>6</sup>	Diesel	375	1	200	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.101	0.009	0.004	0.004	0.042	12.566	0.001	0.000
Derrick barge tug generator	Diesel	150	1	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.131	0.012	0.006	0.005	0.053	8.296	0.000	0.000
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	63	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.494	0.039	0.025	0.022	0.143	31.400	0.001	0.001
Derrick barge winch	Diesel	200	1	120	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.087	0.008	0.004	0.004	0.036	5.531	0.000	0.000
Derrick barge generators	Diesel	200	2	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.348	0.033	0.015	0.014	0.143	22.124	0.001	0.001
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	63	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.494	0.039	0.025	0.022	0.143	31.400	0.001	0.001
Materials barge tug generator	Diesel	200	1	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.174	0.016	0.008	0.007	0.071	11.062	0.000	0.001
Crew/support vessel mains	Diesel	640	3	80	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.492	0.038	0.025	0.023	0.143	31.281	0.001	0.001
Crew/support vessel generator	Diesel	34	1	240	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.021	0.005	0.002	0.002	0.017	1.399	0.000	0.000
Dive support vessel	Diesel	400	1	80	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.103	0.008	0.005	0.005	0.030	6.517	0.000	0.003
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	8	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.002	0.026	0.009	0.008	0.592	1.200	0.000	0.000
Cement pump	Diesel	175	1	40	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.005	0.000	0.000	0.000	0.007	1.171	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	160	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.021	0.004	0.001	0.001	0.025	11.025	0.001	0.000
													<b>2.629</b>	<b>0.255</b>	<b>0.135</b>	<b>0.123</b>	<b>1.556</b>	<b>202.615</b>	<b>0.0063</b>	<b>0.0108</b>

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	600	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0014	0.0002	0.0000	0.0000	0.0140	4.3003	0.0001	0.0001
Heavy-duty truck (equipment/piping)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials-oil spray)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-hazardous)	201	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-non-hazardous)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (backfill)	45	2	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0001	0.0000	0.0000	0.0000	0.0000	0.1426	0.0000	0.0000
Heavy-duty truck (flush water disposal)	25	20	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0007	0.0000	0.0000	0.0000	0.0001	0.7924	0.0000	0.0001
Totals =>											<b>0.0022</b>	<b>0.0002</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0141</b>	<b>5.2</b>	<b>0.0001</b>	<b>0.0002</b>
SB County											<b>0.0014</b>	<b>0.0002</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0140</b>	<b>4.37</b>	<b>0.0001</b>	<b>0.0001</b>
Ventura Co											<b>0.0008</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0001</b>	<b>0.87</b>	<b>0.0000</b>	<b>0.0001</b>
LA County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kern County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kings County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Off-Road & On-Road Source Totals											<b>2.631</b>	<b>0.255</b>	<b>0.135</b>	<b>0.123</b>	<b>1.570</b>	<b>207.9</b>	<b>0.0064</b>	<b>0.0110</b>

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 23 hour round trip and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port of LA/LB

Greenhouse Gas Emissions Summary

Metric Tons	185.581	0.006	0.010
CO2E	185.581	0.160	2.593
Total CO2E			<b>188.3</b>

Carpinteria Oil & Gas Processing Facilities Decommissioning  
Marketing/Marine Terminal Pipeline Bundle - Port Hueneme Disposal Option

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	1	120	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.024	0.002	0.001	0.001	0.016	7.258	0.000	0.000
Wheeled loader (Caterpillar 966)	Diesel	278	1	150	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.050	0.005	0.002	0.001	0.022	8.753	0.000	0.000
Dozer (Caterpillar D6)	Diesel	215	1	16	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.007	0.001	0.000	0.000	0.005	0.859	0.000	0.000
Backhoe	Diesel	104	1	160	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.020	0.002	0.001	0.001	0.024	3.578	0.000	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	40	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.012	0.001	0.001	0.001	0.009	1.383	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	20	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.006	0.000	0.000	0.000	0.003	1.083	0.000	0.000
Boomlift	Diesel	75	1	0	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flush pump	Diesel	20	1	120	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.009	0.001	0.000	0.000	0.006	1.112	0.000	0.000
Air compressor	Diesel	20	1	100	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.007	0.001	0.000	0.000	0.005	0.927	0.000	0.000
Dive compressor	Diesel	50	1	160	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.018	0.003	0.001	0.001	0.022	2.407	0.000	0.000
Welding machine	Diesel	25	1	40	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.002	0.000	0.000	0.000	0.001	0.282	0.000	0.000
Derrick barge crane <sup>6</sup>	Diesel	375	1	200	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.101	0.009	0.004	0.004	0.042	12.566	0.001	0.000
Derrick barge tug generator	Diesel	150	1	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.131	0.012	0.006	0.005	0.053	8.296	0.000	0.000
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	65	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.510	0.040	0.025	0.022	0.147	32.397	0.001	0.001
Derrick barge winch	Diesel	200	1	120	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.087	0.008	0.004	0.004	0.036	5.531	0.000	0.000
Derrick barge generators	Diesel	200	2	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.348	0.033	0.015	0.014	0.143	22.124	0.001	0.001
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	65	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.510	0.040	0.025	0.022	0.147	32.397	0.001	0.001
Materials barge tug generator	Diesel	200	1	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.174	0.016	0.008	0.007	0.071	11.062	0.000	0.001
Crew/support vessel mains	Diesel	640	3	80	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.492	0.038	0.025	0.023	0.143	31.281	0.001	0.001
Crew/support vessel generator	Diesel	34	1	240	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.021	0.005	0.002	0.002	0.017	1.399	0.000	0.000
Dive support vessel	Diesel	400	1	80	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.103	0.008	0.005	0.005	0.030	6.517	0.000	0.003
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	8	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.002	0.026	0.009	0.008	0.592	1.200	0.000	0.000
Cement pump	Diesel	175	1	40	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.005	0.000	0.000	0.000	0.007	1.171	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	160	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.021	0.004	0.001	0.001	0.025	11.025	0.001	0.000
													2.660	0.257	0.136	0.124	1.565	204.609	0.0064	0.0109

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	600	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0014	0.0002	0.0000	0.0000	0.0140	4.3003	0.0001	0.0001
Heavy-duty truck (equipment/piping)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials-oil spray)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-hazardous)	201	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-non-hazardous)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (backfill)	45	2	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0001	0.0000	0.0000	0.0000	0.0000	0.1426	0.0000	0.0000
Heavy-duty truck (pipe disposal)	14	56	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0011	0.0000	0.0000	0.0000	0.0001	1.2425	0.0000	0.0001
Heavy-duty truck (flush water disposal)	25	20	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0007	0.0000	0.0000	0.0000	0.0001	0.7924	0.0000	0.0001
Totals =>											0.0033	0.0002	0.0000	0.0000	0.0142	6.5	0.0001	0.0003
SB County											0.0014	0.0002	0.0000	0.0000	0.0140	4.37	0.0001	0.0001
Ventura Co											0.0008	0.0000	0.0000	0.0000	0.0001	0.87	0.0000	0.0001
LA County											0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	0.0000
Kern County											0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	0.0000
Kings County											0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	0.0000
Off-Road & On-Road Source Totals											2.664	0.258	0.136	0.124	1.579	211.1	0.0064	0.0112

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 25 hour round trip (POLB-Carpinteria-Port Hueneme-POLB) and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port Hueneme

Greenhouse Gas Emissions Summary

Metric Tons	188.470	0.006	0.010
CO2E	188.470	0.161	2.645
Total CO2E			191.3

Carpinteria Oil & Gas Processing Facilities Decommissioning  
Gail and Grace Pipeline Bundle

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	1	120	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.024	0.002	0.001	0.001	0.016	7.258	0.000	0.000
Wheeled loader (Caterpillar 966)	Diesel	278	1	120	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.040	0.004	0.001	0.001	0.017	7.002	0.000	0.000
Dozer (Caterpillar D6)	Diesel	215	1	16	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.007	0.001	0.000	0.000	0.005	0.859	0.000	0.000
Backhoe	Diesel	104	1	150	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.018	0.002	0.001	0.001	0.022	3.354	0.000	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	40	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.012	0.001	0.001	0.001	0.009	1.383	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	20	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.006	0.000	0.000	0.000	0.003	1.083	0.000	0.000
Boomlift	Diesel	75	1	0	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flush pump	Diesel	20	1	80	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.006	0.001	0.000	0.000	0.004	0.741	0.000	0.000
Air compressor	Diesel	20	1	150	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.011	0.001	0.000	0.000	0.007	1.391	0.000	0.000
Dive compressor	Diesel	50	1	160	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.018	0.003	0.001	0.001	0.022	2.407	0.000	0.000
Welding machine	Diesel	25	1	40	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.002	0.000	0.000	0.000	0.001	0.282	0.000	0.000
Derrick barge crane <sup>6</sup>	Diesel	375	1	200	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.101	0.009	0.004	0.004	0.042	12.566	0.001	0.000
Derrick barge tug generator	Diesel	150	1	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.131	0.012	0.006	0.005	0.053	8.296	0.000	0.000
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	63	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.494	0.039	0.025	0.022	0.143	31.400	0.001	0.001
Derrick barge winch	Diesel	200	1	120	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.087	0.008	0.004	0.004	0.036	5.531	0.000	0.000
Derrick barge generators	Diesel	200	2	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.348	0.033	0.015	0.014	0.143	22.124	0.001	0.001
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	63	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.494	0.039	0.025	0.022	0.143	31.400	0.001	0.001
Materials barge tug generator	Diesel	200	1	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.174	0.016	0.008	0.007	0.071	11.062	0.000	0.001
Crew/support vessel mains	Diesel	640	3	80	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.492	0.038	0.025	0.023	0.143	31.281	0.001	0.001
Crew/support vessel generator	Diesel	34	1	240	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.021	0.005	0.002	0.002	0.017	1.399	0.000	0.000
Dive support vessel	Diesel	400	1	120	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.154	0.012	0.008	0.007	0.045	9.775	0.000	0.004
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	8	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.002	0.026	0.009	0.008	0.592	1.200	0.000	0.000
Cement pump	Diesel	175	1	40	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.005	0.000	0.000	0.000	0.007	1.171	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	160	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.021	0.004	0.001	0.001	0.025	11.025	0.001	0.000
													<b>2.670</b>	<b>0.258</b>	<b>0.137</b>	<b>0.125</b>	<b>1.565</b>	<b>203.993</b>	<b>0.0063</b>	<b>0.0122</b>

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	400	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0009	0.0001	0.0000	0.0000	0.0094	2.8668	0.0000	0.0001
Heavy-duty truck (equipment/piping)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials-oil spray)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-hazardous)	201	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-non-hazardous)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (backfill)	45	2	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0001	0.0000	0.0000	0.0000	0.0000	0.1426	0.0000	0.0000
Heavy-duty truck (flush water disposal)	25	20	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0007	0.0000	0.0000	0.0000	0.0001	0.7924	0.0000	0.0001
Totals =>											<b>0.0017</b>	<b>0.0001</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0094</b>	<b>3.8</b>	<b>0.0000</b>	<b>0.0002</b>
SB County											<b>0.0010</b>	<b>0.0001</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0094</b>	<b>2.94</b>	<b>0.0000</b>	<b>0.0001</b>
Ventura Co											<b>0.0008</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0001</b>	<b>0.87</b>	<b>0.0000</b>	<b>0.0001</b>
LA County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kern County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kings County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Off-Road & On-Road Source Totals											<b>2.672</b>	<b>0.258</b>	<b>0.137</b>	<b>0.125</b>	<b>1.574</b>	<b>207.8</b>	<b>0.0063</b>	<b>0.0123</b>

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 23 hour round trip and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port of LA/LB

Greenhouse Gas Emissions Summary

Metric Tons	185.531	0.006	0.011
CO2E	185.531	0.159	2.915
Total CO2E			<b>188.6</b>

Carpinteria Oil & Gas Processing Facilities Decommissioning  
Gail and Grace Pipeline Bundle - Port Hueneme Disposal Option

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	1	120	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.024	0.002	0.001	0.001	0.016	7.258	0.000	0.000
Wheeled loader (Caterpillar 966)	Diesel	278	1	120	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.040	0.004	0.001	0.001	0.017	7.002	0.000	0.000
Dozer (Caterpillar D6)	Diesel	215	1	16	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.007	0.001	0.000	0.000	0.005	0.859	0.000	0.000
Backhoe	Diesel	104	1	150	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.018	0.002	0.001	0.001	0.022	3.354	0.000	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	40	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.012	0.001	0.001	0.001	0.009	1.383	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	20	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.006	0.000	0.000	0.000	0.003	1.083	0.000	0.000
Boomlift	Diesel	75	1	0	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flush pump	Diesel	20	1	80	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.006	0.001	0.000	0.000	0.004	0.741	0.000	0.000
Air compressor	Diesel	20	1	150	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.011	0.001	0.000	0.000	0.007	1.391	0.000	0.000
Dive compressor	Diesel	50	1	160	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.018	0.003	0.001	0.001	0.022	2.407	0.000	0.000
Welding machine	Diesel	25	1	40	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.002	0.000	0.000	0.000	0.001	0.282	0.000	0.000
Derrick barge crane <sup>6</sup>	Diesel	375	1	200	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.101	0.009	0.004	0.004	0.042	12.566	0.001	0.000
Derrick barge tug generator	Diesel	150	1	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.131	0.012	0.006	0.005	0.053	8.296	0.000	0.000
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	65	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.510	0.040	0.025	0.022	0.147	32.397	0.001	0.001
Derrick barge winch	Diesel	200	1	120	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.087	0.008	0.004	0.004	0.036	5.531	0.000	0.000
Derrick barge generators	Diesel	200	2	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.348	0.033	0.015	0.014	0.143	22.124	0.001	0.001
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	65	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.510	0.040	0.025	0.022	0.147	32.397	0.001	0.001
Materials barge tug generator	Diesel	200	1	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.174	0.016	0.008	0.007	0.071	11.062	0.000	0.001
Crew/support vessel mains	Diesel	640	3	80	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.492	0.038	0.025	0.023	0.143	31.281	0.001	0.001
Crew/support vessel generator	Diesel	34	1	240	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.021	0.005	0.002	0.002	0.017	1.399	0.000	0.000
Dive support vessel	Diesel	400	1	120	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.154	0.012	0.008	0.007	0.045	9.775	0.000	0.004
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	8	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.002	0.026	0.009	0.008	0.592	1.200	0.000	0.000
Cement pump	Diesel	175	1	40	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.005	0.000	0.000	0.000	0.007	1.171	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	160	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.021	0.004	0.001	0.001	0.025	11.025	0.001	0.000
													<b>2.701</b>	<b>0.260</b>	<b>0.138</b>	<b>0.126</b>	<b>1.574</b>	<b>205.986</b>	<b>0.0063</b>	<b>0.0122</b>

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	400	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0009	0.0001	0.0000	0.0000	0.0094	2.8668	0.0000	0.0001
Heavy-duty truck (equipment/piping)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials-oil spray)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-hazardous)	201	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-non-hazardous)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (backfill)	45	2	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0001	0.0000	0.0000	0.0000	0.0000	0.1426	0.0000	0.0000
Heavy-duty truck (pipe disposal)	14	228	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0045	0.0001	0.0001	0.0001	0.0004	5.0588	0.0000	0.0005
Heavy-duty truck (flush water disposal)	25	20	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0007	0.0000	0.0000	0.0000	0.0001	0.7924	0.0000	0.0001
Totals =>											<b>0.0062</b>	<b>0.0002</b>	<b>0.0001</b>	<b>0.0001</b>	<b>0.0098</b>	<b>8.9</b>	<b>0.0000</b>	<b>0.0007</b>
SB County											<b>0.0010</b>	<b>0.0001</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0094</b>	<b>2.94</b>	<b>0.0000</b>	<b>0.0001</b>
Ventura Co											<b>0.0008</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0001</b>	<b>0.87</b>	<b>0.0000</b>	<b>0.0001</b>
LA County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kern County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kings County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Off-Road & On-Road Source Totals											<b>2.707</b>	<b>0.261</b>	<b>0.139</b>	<b>0.126</b>	<b>1.584</b>	<b>214.8</b>	<b>0.0064</b>	<b>0.0129</b>

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 25 hour round trip (POLB-Carpinteria-Port Hueneme-POLB) and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port Hueneme

Greenhouse Gas Emissions Summary

Metric Tons	191.828	0.006	0.012
CO2E	191.828	0.160	3.060
Total CO2E			<b>195.0</b>



Carpinteria Oil & Gas Processing Facilities Decommissioning  
Main Plant Area

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	2	1200	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.486	0.046	0.016	0.013	0.310	145.166	0.008	0.004
Wheeled loader (Caterpillar 966)	Diesel	278	2	1000	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.673	0.061	0.022	0.019	0.289	116.707	0.006	0.003
Dozer (Caterpillar D6)	Diesel	215	1	80	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.036	0.004	0.002	0.002	0.027	4.294	0.000	0.000
Backhoe	Diesel	104	2	1000	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.244	0.024	0.015	0.011	0.300	44.725	0.002	0.001
Grader (Caterpillar 120M3)	Diesel	145	1	80	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.025	0.003	0.001	0.001	0.018	2.766	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	80	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.023	0.002	0.001	0.001	0.013	4.334	0.000	0.000
Boomlift	Diesel	75	1	360	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.015	0.001	0.000	0.000	0.029	4.842	0.000	0.000
Flush pump	Diesel	20	1	0	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Air compressor	Diesel	20	1	0	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive compressor	Diesel	50	1	0	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welding machine	Diesel	25	1	40	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.002	0.000	0.000	0.000	0.001	0.282	0.000	0.000
Derrick barge crane <sup>6</sup>	Diesel	375	1	0	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug generator	Diesel	150	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge winch	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge generators	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug generator	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel mains	Diesel	640	3	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel generator	Diesel	34	1	0	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive support vessel	Diesel	400	1	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	0	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cement pump	Diesel	175	1	0	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	0	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
													1.505	0.140	0.058	0.048	0.987	323.117	0.0172	0.0082

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	3900	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0088	0.0013	0.0001	0.0001	0.0912	27.9516	0.0004	0.0006
Heavy-duty truck (equipment/piping)	25	234	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0083	0.0001	0.0001	0.0001	0.0007	9.2713	0.0000	0.0010
Heavy-duty truck (surface materials)	25	274	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0097	0.0001	0.0001	0.0001	0.0008	10.8561	0.0000	0.0011
Heavy-duty truck (surface materials-oil spray)	50	28	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0020	0.0000	0.0000	0.0000	0.0002	2.2188	0.0000	0.0002
Heavy-duty truck (soil removal-hazardous)	201	56	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0159	0.0002	0.0002	0.0002	0.0013	17.8389	0.0000	0.0019
Heavy-duty truck (soil removal-non-hazardous)	50	5484	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.3872	0.0057	0.0049	0.0046	0.0309	434.5620	0.0003	0.0452
Heavy-duty truck (backfill)	45	5540	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.3521	0.0052	0.0044	0.0042	0.0281	395.0996	0.0002	0.0411
Heavy-duty truck (flush water disposal)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Totals =>											0.7839	0.0128	0.0098	0.0094	0.1531	897.8	0.0009	0.0911
SB County											0.0415	0.0018	0.0005	0.0005	0.0939	64.60	0.0004	0.0044
Ventura Co											0.7307	0.0108	0.0092	0.0088	0.0583	819.98	0.0005	0.0853
LA County											0.0029	0.0000	0.0000	0.0000	0.0002	3.28	0.0000	0.0003
Kern County											0.0073	0.0001	0.0001	0.0001	0.0006	8.17	0.0000	0.0009
Kings County											0.0016	0.0000	0.0000	0.0000	0.0001	1.78	0.0000	0.0002
Off-Road & On-Road Source Totals											2.289	0.153	0.068	0.057	1.140	1220.9	0.0181	0.0993

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 23 hour round trip and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port of LA/LB

Greenhouse Gas Emissions Summary

Metric Tons	1090.103	0.016	0.089
CO2E	1090.103	0.452	23.506
Total CO2E			1114.1

Carpinteria Oil & Gas Processing Facilities Decommissioning  
MSRC Lease Area

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	2	360	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.146	0.014	0.005	0.004	0.093	43.550	0.002	0.001
Wheeled loader (Caterpillar 966)	Diesel	278	2	360	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.242	0.022	0.008	0.007	0.104	42.015	0.002	0.001
Dozer (Caterpillar D6)	Diesel	215	1	40	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.018	0.002	0.001	0.001	0.014	2.147	0.000	0.000
Backhoe	Diesel	104	2	480	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.117	0.011	0.007	0.005	0.144	21.468	0.001	0.001
Grader (Caterpillar 120M3)	Diesel	145	1	40	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.012	0.001	0.001	0.001	0.009	1.383	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	40	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.012	0.001	0.000	0.000	0.006	2.167	0.000	0.000
Boomlift	Diesel	75	1	40	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.002	0.000	0.000	0.000	0.003	0.538	0.000	0.000
Flush pump	Diesel	20	1	0	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Air compressor	Diesel	20	1	0	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive compressor	Diesel	50	1	0	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welding machine	Diesel	25	1	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge crane <sup>6</sup>	Diesel	375	1	0	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug generator	Diesel	150	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge winch	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge generators	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug generator	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel mains	Diesel	640	3	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel generator	Diesel	34	1	0	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive support vessel	Diesel	400	1	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	0	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cement pump	Diesel	175	1	0	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	0	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
													<b>0.549</b>	<b>0.051</b>	<b>0.022</b>	<b>0.018</b>	<b>0.373</b>	<b>113.268</b>	<b>0.0060</b>	<b>0.0029</b>

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	1200	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0027	0.0004	0.0000	0.0000	0.0281	8.6005	0.0001	0.0002
Heavy-duty truck (equipment/piping)	25	6	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0002	0.0000	0.0000	0.0000	0.0000	0.2377	0.0000	0.0000
Heavy-duty truck (surface materials)	25	334	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0118	0.0002	0.0001	0.0001	0.0009	13.2334	0.0000	0.0014
Heavy-duty truck (surface materials-oil spray)	50	10	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0007	0.0000	0.0000	0.0000	0.0001	0.7924	0.0000	0.0001
Heavy-duty truck (soil removal-hazardous)	201	10	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0028	0.0000	0.0000	0.0000	0.0002	3.1855	0.0000	0.0003
Heavy-duty truck (soil removal-non-hazardous)	50	884	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0624	0.0009	0.0008	0.0007	0.0050	70.0497	0.0000	0.0073
Heavy-duty truck (backfill)	45	894	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0568	0.0008	0.0007	0.0007	0.0045	63.7579	0.0000	0.0066
Heavy-duty truck (flush water disposal)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Totals =>											<b>0.1375</b>	<b>0.0024</b>	<b>0.0017</b>	<b>0.0016</b>	<b>0.0388</b>	<b>159.9</b>	<b>0.0002</b>	<b>0.0159</b>
SB County											<b>0.0087</b>	<b>0.0005</b>	<b>0.0001</b>	<b>0.0001</b>	<b>0.0286</b>	<b>15.35</b>	<b>0.0001</b>	<b>0.0009</b>
Ventura Co											<b>0.1267</b>	<b>0.0019</b>	<b>0.0016</b>	<b>0.0015</b>	<b>0.0101</b>	<b>142.15</b>	<b>0.0001</b>	<b>0.0148</b>
LA County											<b>0.0005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.59</b>	<b>0.0000</b>	<b>0.0001</b>
Kern County											<b>0.0013</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0001</b>	<b>1.46</b>	<b>0.0000</b>	<b>0.0002</b>
Kings County											<b>0.0003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.32</b>	<b>0.0000</b>	<b>0.0000</b>
Off-Road & On-Road Source Totals											<b>0.687</b>	<b>0.054</b>	<b>0.024</b>	<b>0.020</b>	<b>0.412</b>	<b>273.1</b>	<b>0.0062</b>	<b>0.0188</b>

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 23 hour round trip and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port of LA/LB

Greenhouse Gas Emissions Summary

Metric Tons	243.861	0.006	0.017
CO2E	243.861	0.156	4.450
Total CO2E			<b>248.5</b>

Carpinteria Oil & Gas Processing Facilities Decommissioning  
Pier Parking Lot Area

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	2	0	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Wheeled loader (Caterpillar 966)	Diesel	278	2	80	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.054	0.005	0.002	0.002	0.023	9.337	0.001	0.000
Dozer (Caterpillar D6)	Diesel	215	1	80	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.036	0.004	0.002	0.002	0.027	4.294	0.000	0.000
Backhoe	Diesel	104	2	320	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.078	0.008	0.005	0.004	0.096	14.312	0.001	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	40	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.012	0.001	0.001	0.001	0.009	1.383	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	20	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.006	0.000	0.000	0.000	0.003	1.083	0.000	0.000
Boomlift	Diesel	75	1	0	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flush pump	Diesel	20	1	0	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Air compressor	Diesel	20	1	0	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive compressor	Diesel	50	1	0	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welding machine	Diesel	25	1	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge crane <sup>6</sup>	Diesel	375	1	0	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug generator	Diesel	150	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge winch	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge generators	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug generator	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel mains	Diesel	640	3	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel generator	Diesel	34	1	0	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive support vessel	Diesel	400	1	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	0	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cement pump	Diesel	175	1	0	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	0	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
													<b>0.186</b>	<b>0.018</b>	<b>0.009</b>	<b>0.008</b>	<b>0.158</b>	<b>30.409</b>	<b>0.0016</b>	<b>0.0008</b>

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	1400	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0032	0.0005	0.0000	0.0000	0.0328	10.0339	0.0001	0.0002
Heavy-duty truck (equipment/piping)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials)	25	580	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0205	0.0003	0.0003	0.0002	0.0016	22.9801	0.0000	0.0024
Heavy-duty truck (surface materials-oil spray)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-hazardous)	201	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-non-hazardous)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (backfill)	45	100	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0064	0.0001	0.0001	0.0001	0.0005	7.1318	0.0000	0.0007
Heavy-duty truck (flush water disposal)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Totals =>											<b>0.0300</b>	<b>0.0009</b>	<b>0.0004</b>	<b>0.0004</b>	<b>0.0349</b>	<b>40.1</b>	<b>0.0002</b>	<b>0.0034</b>
SB County											<b>0.0051</b>	<b>0.0005</b>	<b>0.0001</b>	<b>0.0001</b>	<b>0.0329</b>	<b>12.19</b>	<b>0.0001</b>	<b>0.0004</b>
Ventura Co											<b>0.0249</b>	<b>0.0004</b>	<b>0.0003</b>	<b>0.0003</b>	<b>0.0020</b>	<b>27.96</b>	<b>0.0000</b>	<b>0.0029</b>
LA County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kern County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kings County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Off-Road & On-Road Source Totals											<b>0.216</b>	<b>0.019</b>	<b>0.010</b>	<b>0.008</b>	<b>0.193</b>	<b>70.6</b>	<b>0.0018</b>	<b>0.0041</b>

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 23 hour round trip and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port of LA/LB

Greenhouse Gas Emissions Summary

Metric Tons	62.996	0.002	0.004
CO2E	62.996	0.044	0.975
Total CO2E			<b>64.0</b>

# Carpinteria Oil & Gas Processing Facilities Decommissioning Air Pollutant and Greenhouse Gas Emissions Totals

Task/Area	Air Pollutants: Total English Tons					GHG: Total Metric Tons			
	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	CO2E
1. Chevron Pipeline Area	1.00	0.09	0.04	0.03	0.67	212.2	0.009	0.007	214.3
2. Former Marketing Terminal Area	1.10	0.08	0.04	0.03	0.57	407.0	0.007	0.031	415.5
3. Shop and Maintenance Area	0.32	0.03	0.01	0.01	0.20	67.9	0.003	0.003	68.8
4. Marketing/Marine Terminal Pipeline Bundle	2.63	0.26	0.13	0.12	1.57	185.6	0.006	0.010	188.3
5. Gail and Grace Pipeline Bundle	2.67	0.26	0.14	0.12	1.57	185.5	0.006	0.011	188.6
6. Main Plant Area	2.29	0.15	0.07	0.06	1.14	1090.1	0.016	0.089	1114.1
7. MSRC Lease Area	0.69	0.05	0.02	0.02	0.41	243.9	0.006	0.017	248.5
8. Pier Parking Lot Area	0.22	0.02	0.01	0.01	0.19	63.0	0.002	0.004	64.0
<b>Total</b>	<b>10.91</b>	<b>0.94</b>	<b>0.46</b>	<b>0.41</b>	<b>6.32</b>	<b>2455.2</b>	<b>0.054</b>	<b>0.171</b>	<b>2502.1</b>

Peak 12-month Period	Air Pollutants: Total English Tons					GHG: Total Metric Tons			
Task/Area 4 through 7	8.28	0.72	0.36	0.32	4.70	1705.1	0.033	0.126	1739.5
SBAPCD Rule 202 Threshold	25	25	25	25	NA	-	-	-	-
SBAPCD Stationary Source Threshold									10000

Peak Day: All Emissions	Pounds/Peak Day				
Gail and Grace Pipeline Bundle	228.2	20.1	10.8	9.9	82.9
SBCAPCD Threshold	240	240	80	NA	NA

Peak Day: Motor Vehicle Emissions	Pounds/Peak Day				
Main Plant Area: soil removal	13.6	0.2	0.2	0.2	2.0
SBCAPCD Threshold	25	25	NA	NA	NA

**Carpinteria Oil & Gas Processing Facilities Decommissioning**  
**Air Pollutant and Greenhouse Gas Emissions Totals - Port Hueneme Pipe Disposal Option**

Task/Area	Air Pollutants: Total English Tons					GHG: Total Metric Tons			
	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	CO2E
1. Chevron Pipeline Area	1.00	0.09	0.04	0.03	0.67	212.2	0.009	0.007	214.3
2. Former Marketing Terminal Area	1.10	0.08	0.04	0.03	0.57	407.0	0.007	0.031	415.5
3. Shop and Maintenance Area	0.32	0.03	0.01	0.01	0.20	67.9	0.003	0.003	68.8
4. Marketing/Marine Terminal Pipeline Bundle	2.66	0.26	0.14	0.12	1.58	188.5	0.006	0.010	191.3
5. Gail and Grace Pipeline Bundle	2.71	0.26	0.14	0.13	1.58	191.8	0.006	0.012	195.0
6. Main Plant Area	2.29	0.15	0.07	0.06	1.14	1090.1	0.016	0.089	1114.1
7. MSRC Lease Area	0.69	0.05	0.02	0.02	0.41	243.9	0.006	0.017	248.5
8. Pier Parking Lot Area	0.22	0.02	0.01	0.01	0.19	63.0	0.002	0.004	64.0
<b>Total</b>	<b>10.98</b>	<b>0.95</b>	<b>0.46</b>	<b>0.41</b>	<b>6.34</b>	<b>2464.4</b>	<b>0.054</b>	<b>0.172</b>	<b>2511.5</b>

**Peak 12-month Period**

Task/Area 4 through 7	8.35	0.72	0.37	0.33	4.71	1714.3	0.033	0.127	1748.9
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Carpinteria Oil & Gas Processing Facilities Decommissioning  
Main Plant Area - Peak Day

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Peak Day Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Pounds							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	2	8	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	6.48	0.61	0.22	0.17	4.13	1935.6	0.100	0.048
Wheeled loader (Caterpillar 966)	Diesel	278	2	8	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	10.76	0.98	0.36	0.31	4.63	1867.3	0.102	0.049
Dozer (Caterpillar D6)	Diesel	215	1	8	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	7.17	0.71	0.40	0.34	5.40	858.8	0.040	0.019
Backhoe	Diesel	104	2	8	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	3.91	0.38	0.23	0.18	4.79	715.6	0.038	0.018
Grader (Caterpillar 120M3)	Diesel	145	1	8	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	4.96	0.52	0.28	0.24	3.68	553.3	0.027	0.013
Soil compactor (Caterpillar 815K)	Diesel	248	1	8	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	4.66	0.38	0.16	0.14	2.54	866.7	0.046	0.022
Boomlift	Diesel	75	1	0	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Flush pump	Diesel	20	1	0	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Air compressor	Diesel	20	1	0	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Dive compressor	Diesel	50	1	0	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Welding machine	Diesel	25	1	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Derrick barge crane <sup>6</sup>	Diesel	375	1	0	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Derrick barge tug generator	Diesel	150	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Derrick barge winch	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Derrick barge generators	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Materials barge tug generator	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Crew/support vessel mains	Diesel	640	3	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Crew/support vessel generator	Diesel	34	1	0	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Dive support vessel	Diesel	400	1	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	0	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Cement pump	Diesel	175	1	0	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	0	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
													37.96	3.57	1.64	1.39	25.17	6797.3	0.353	0.169

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Peak Day One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total Pounds							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	20	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.09	0.01	0.00	0.00	0.94	286.7	0.004	0.006
Heavy-duty truck (equipment/piping)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Heavy-duty truck (surface materials)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Heavy-duty truck (surface materials-oil spray)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Heavy-duty truck (soil removal-hazardous)	201	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Heavy-duty truck (soil removal-non-hazardous) <sup>7</sup>	50	96	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	13.56	0.20	0.17	0.16	1.08	15214.4	0.009	1.583
Heavy-duty truck (backfill)	45	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Heavy-duty truck (flush water disposal)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Totals =>											13.65	0.21	0.17	0.16	2.02	15501.1	0.0132	1.5895
SB County											0.63	0.02	0.01	0.01	0.98	895.3	0.0042	0.0697
Ventura Co											13.01	0.19	0.16	0.16	1.04	14605.8	0.0090	1.5198
LA County											0.00	0.00	0.00	0.00	0.00	0.0	0.0000	0.0000
Kern County											0.00	0.00	0.00	0.00	0.00	0.0	0.0000	0.0000
Kings County											0.00	0.00	0.00	0.00	0.00	0.0	0.0000	0.0000
Off-Road & On-Road Source Totals											51.6	3.8	1.8	1.6	27.2	22298.4	0.3658	1.7581

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 23 hour round trip and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port of LA/LB

<sup>7</sup> Peak day truck trips based on 16 truck fleet making 3 round trips (96 one-way trips)

Carpinteria Oil & Gas Processing Facilities Decommissioning  
Gail and Grace Pipeline Bundle - Peak Day

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Pounds							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	1	8	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	3.24	0.30	0.11	0.09	2.07	967.8	0.050	0.024
Wheeled loader (Caterpillar 966)	Diesel	278	1	8	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	5.38	0.49	0.18	0.16	2.31	933.7	0.051	0.024
Dozer (Caterpillar D6)	Diesel	215	1	0	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Backhoe	Diesel	104	1	0	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	0	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	0	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Boomlift	Diesel	75	1	0	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Flush pump	Diesel	20	1	0	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Air compressor	Diesel	20	1	8	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	1.17	0.15	0.05	0.05	0.77	148.4	0.004	0.002
Dive compressor	Diesel	50	1	6	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	1.36	0.25	0.07	0.07	1.62	180.5	0.007	0.003
Welding machine	Diesel	25	1	4	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.45	0.06	0.02	0.02	0.29	56.4	0.002	0.001
Derrick barge crane <sup>6</sup>	Diesel	375	1	8	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	8.04	0.69	0.33	0.30	3.36	1005.2	0.069	0.033
Derrick barge tug generator	Diesel	150	1	12	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	13.07	1.22	0.58	0.54	5.35	829.6	0.020	0.038
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	2	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	31.38	2.46	1.56	1.38	9.06	1993.7	0.042	0.090
Derrick barge winch	Diesel	200	1	8	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	11.62	1.09	0.51	0.48	4.75	737.5	0.018	0.034
Derrick barge generators	Diesel	200	2	12	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	34.85	3.26	1.54	1.44	14.26	2212.4	0.053	0.101
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	2	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	31.38	2.46	1.56	1.38	9.06	1993.7	0.042	0.090
Materials barge tug generator	Diesel	200	1	12	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	17.42	1.63	0.77	0.72	7.13	1106.2	0.026	0.050
Crew/support vessel mains	Diesel	640	3	4	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	49.23	3.84	2.46	2.30	14.28	3128.1	0.061	0.138
Crew/support vessel generator	Diesel	34	1	12	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	2.08	0.54	0.20	0.18	1.66	139.9	0.009	0.006
Dive support vessel	Diesel	400	1	6	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	15.38	1.20	0.77	0.72	4.46	977.5	0.019	0.432
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	0	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Cement pump	Diesel	175	1	0	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	8	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	2.11	0.42	0.10	0.08	2.46	1102.5	0.074	0.035
													228.16	20.06	10.79	9.90	82.89	17513.0	0.5469	1.1017

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Pounds							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	0	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy-duty truck (equipment/piping)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy-duty truck (surface materials)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy-duty truck (surface materials-oil spray)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy-duty truck (soil removal-hazardous)	201	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy-duty truck (soil removal-non-hazardous)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy-duty truck (backfill)	45	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy-duty truck (flush water disposal)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals =>											0.000	0.000	0.000	0.000	0.000	0.0	0.0000	0.0000
SB County											0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	0.0000
Ventura Co											0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	0.0000
LA County											0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	0.0000
Kern County											0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	0.0000
Kings County											0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	0.0000
Off-Road & On-Road Source Totals											228.163	20.065	10.792	9.903	82.888	17513.0	0.5469	1.1017

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 23 hour round trip and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port of LA/LB

# HARP Project Summary Report 2/20/2024 9:13:19 AM

## \*\*\*PROJECT INFORMATION\*\*\*

HARP Version: 22118

Project Name: CARPINTERIA

Project Output Directory: C:\HARP2\Projects\Carp\CARPINTERIA

HARP Database: NA

## \*\*\*FACILITY INFORMATION\*\*\*

Origin

X (m):269455

Y (m):3808017

Zone:11

No. of Sources:13

No. of Buildings:0

## \*\*\*EMISSION INVENTORY\*\*\*

No. of Pollutants:299

No. of Background Pollutants:0

### Emissions

ScrID	StkID	ProID	PolID	PolAbbrev	Multi	Annual Ems	MaxHr Ems	MWAF
					(lbs/yr)	(lbs/hr)		
1	0	0	9901	DieselExhPM	1	33.3	0	1
1	0	0	1151	PAHsnonNaph	1	0	0	1
1	0	0	50000	Formaldehyde	1	0	0	1
1	0	0	71432	Benzene	1	0	0	1
1	0	0	75070	Acetaldehyde	1	0	0	1
1	0	0	91203	PAHsNaph	1	0	0	1
1	0	0	100414	Ethylbenzene	1	0	0	1
1	0	0	106990	13Butadiene	1	0	0	1
1	0	0	107028	Acrolein	1	0	0	1
1	0	0	108883	Toluene	1	0	0	1
1	0	0	110543	Hexane	1	0	0	1
1	0	0	1330207	Xylenes	1	0	0	1
1	0	0	7439921	Lead	1	0	0	1
1	0	0	7439965	Manganese	1	0	0	1
1	0	0	7439976	Mercury	1	0	0	1
1	0	0	7440020	Nickel	1	0	0	1
1	0	0	7440382	Arsenic	1	0	0	1
1	0	0	7440439	Cadmium	1	0	0	1
1	0	0	7440508	Copper	1	0	0	1
1	0	0	7647010	Hydrochloricacid	1	0	0	1
1	0	0	7664417	Ammonia	1	0	0	1
1	0	0	7782492	Selenium	1	0	0	1
1	0	0	18540299	Hexchromium	1	0	0	1
2	0	0	9901	DieselExhPM	1	30.1	0	1
2	0	0	1151	PAHsnonNaph	1	0	0	1
2	0	0	50000	Formaldehyde	1	0	0	1
2	0	0	71432	Benzene	1	0	0	1
2	0	0	75070	Acetaldehyde	1	0	0	1



2	0	0	91203	PAHsNaph	1	0	0	1
2	0	0	100414	Ethylbenzene	1	0	0	1
2	0	0	106990	13Butadiene	1	0	0	1
2	0	0	107028	Acrolein	1	0	0	1
2	0	0	108883	Toluene	1	0	0	1
2	0	0	110543	Hexane	1	0	0	1
2	0	0	1330207	Xylenes	1	0	0	1
2	0	0	7439921	Lead	1	0	0	1
2	0	0	7439965	Manganese	1	0	0	1
2	0	0	7439976	Mercury	1	0	0	1
2	0	0	7440020	Nickel	1	0	0	1
2	0	0	7440382	Arsenic	1	0	0	1
2	0	0	7440439	Cadmium	1	0	0	1
2	0	0	7440508	Copper	1	0	0	1
2	0	0	7647010	Hydrochloricacid	1	0	0	1
2	0	0	7664417	Ammonia	1	0	0	1
2	0	0	7782492	Selenium	1	0	0	1
2	0	0	18540299	Hexchromium	1	0	0	1
3	0	0	9901	DieselExhPM	1	10.7	0	1
3	0	0	1151	PAHsnonNaph	1	0	0	1
3	0	0	50000	Formaldehyde	1	0	0	1
3	0	0	71432	Benzene	1	0	0	1
3	0	0	75070	Acetaldehyde	1	0	0	1
3	0	0	91203	PAHsNaph	1	0	0	1
3	0	0	100414	Ethylbenzene	1	0	0	1
3	0	0	106990	13Butadiene	1	0	0	1
3	0	0	107028	Acrolein	1	0	0	1
3	0	0	108883	Toluene	1	0	0	1
3	0	0	110543	Hexane	1	0	0	1
3	0	0	1330207	Xylenes	1	0	0	1
3	0	0	7439921	Lead	1	0	0	1
3	0	0	7439965	Manganese	1	0	0	1
3	0	0	7439976	Mercury	1	0	0	1
3	0	0	7440020	Nickel	1	0	0	1
3	0	0	7440382	Arsenic	1	0	0	1
3	0	0	7440439	Cadmium	1	0	0	1
3	0	0	7440508	Copper	1	0	0	1
3	0	0	7647010	Hydrochloricacid	1	0	0	1
3	0	0	7664417	Ammonia	1	0	0	1
3	0	0	7782492	Selenium	1	0	0	1
3	0	0	18540299	Hexchromium	1	0	0	1
4	0	0	9901	DieselExhPM	1	6	0	1
4	0	0	1151	PAHsnonNaph	1	0	0	1
4	0	0	50000	Formaldehyde	1	0	0	1
4	0	0	71432	Benzene	1	0	0	1
4	0	0	75070	Acetaldehyde	1	0	0	1
4	0	0	91203	PAHsNaph	1	0	0	1
4	0	0	100414	Ethylbenzene	1	0	0	1
4	0	0	106990	13Butadiene	1	0	0	1
4	0	0	107028	Acrolein	1	0	0	1
4	0	0	108883	Toluene	1	0	0	1
4	0	0	110543	Hexane	1	0	0	1
4	0	0	1330207	Xylenes	1	0	0	1
4	0	0	7439921	Lead	1	0	0	1

4	0	0	7439965	Manganese	1	0	0	1
4	0	0	7439976	Mercury	1	0	0	1
4	0	0	7440020	Nickel	1	0	0	1
4	0	0	7440382	Arsenic	1	0	0	1
4	0	0	7440439	Cadmium	1	0	0	1
4	0	0	7440508	Copper	1	0	0	1
4	0	0	7647010	Hydrochloricacid	1	0	0	1
4	0	0	7664417	Ammonia	1	0	0	1
4	0	0	7782492	Selenium	1	0	0	1
4	0	0	18540299	Hexchromium	1	0	0	1
5	0	0	9901	DieselExhPM	1	3.04	0	1
5	0	0	1151	PAHsnonNaph	1	0	0	1
5	0	0	50000	Formaldehyde	1	0	0	1
5	0	0	71432	Benzene	1	0	0	1
5	0	0	75070	Acetaldehyde	1	0	0	1
5	0	0	91203	PAHsNaph	1	0	0	1
5	0	0	100414	Ethylbenzene	1	0	0	1
5	0	0	106990	13Butadiene	1	0	0	1
5	0	0	107028	Acrolein	1	0	0	1
5	0	0	108883	Toluene	1	0	0	1
5	0	0	110543	Hexane	1	0	0	1
5	0	0	1330207	Xylenes	1	0	0	1
5	0	0	7439921	Lead	1	0	0	1
5	0	0	7439965	Manganese	1	0	0	1
5	0	0	7439976	Mercury	1	0	0	1
5	0	0	7440020	Nickel	1	0	0	1
5	0	0	7440382	Arsenic	1	0	0	1
5	0	0	7440439	Cadmium	1	0	0	1
5	0	0	7440508	Copper	1	0	0	1
5	0	0	7647010	Hydrochloricacid	1	0	0	1
5	0	0	7664417	Ammonia	1	0	0	1
5	0	0	7782492	Selenium	1	0	0	1
5	0	0	18540299	Hexchromium	1	0	0	1
6	0	0	9901	DieselExhPM	1	5.66	0	1
6	0	0	1151	PAHsnonNaph	1	0	9.96E-05	1
6	0	0	50000	Formaldehyde	1	0	0.00308	1
6	0	0	71432	Benzene	1	0	0.000332	1
6	0	0	75070	Acetaldehyde	1	0	0.0014	1
6	0	0	91203	PAHsNaph	1	0	3.51E-05	1
6	0	0	100414	Ethylbenzene	1	0	1.94E-05	1
6	0	0	106990	13Butadiene	1	0	0.000387	1
6	0	0	107028	Acrolein	1	0	6.04E-05	1
6	0	0	108883	Toluene	1	0	0.000188	1
6	0	0	110543	Hexane	1	0	4.79E-05	1
6	0	0	1330207	Xylenes	1	0	7.55E-05	1
6	0	0	7439921	Lead	1	0	1.48E-05	1
6	0	0	7439965	Manganese	1	0	5.52E-06	1
6	0	0	7439976	Mercury	1	0	3.56E-06	1
6	0	0	7440020	Nickel	1	0	6.95E-06	1
6	0	0	7440382	Arsenic	1	0	2.85E-06	1
6	0	0	7440439	Cadmium	1	0	2.67E-06	1
6	0	0	7440508	Copper	1	0	7.31E-06	1
6	0	0	7647010	Hydrochloricacid	1	0	0.000332	1
6	0	0	7664417	Ammonia	1	0	0.00517	1

6	0	0	7782492	Selenium	1	0	3.92E-06	1
6	0	0	18540299	Hexchromium	1	0	1.78E-07	1
7	0	0	9901	DieselExhPM	1	3.19	0	1
7	0	0	1151	PAHsnonNaph	1	0	0.000837	1
7	0	0	50000	Formaldehyde	1	0	0.0258	1
7	0	0	71432	Benzene	1	0	0.00279	1
7	0	0	75070	Acetaldehyde	1	0	0.0117	1
7	0	0	91203	PAHsNaph	1	0	0.000295	1
7	0	0	100414	Ethylbenzene	1	0	0.000163	1
7	0	0	106990	13Butadiene	1	0	0.00325	1
7	0	0	107028	Acrolein	1	0	0.000508	1
7	0	0	108883	Toluene	1	0	0.00158	1
7	0	0	110543	Hexane	1	0	0.000403	1
7	0	0	1330207	Xylenes	1	0	0.000635	1
7	0	0	7439921	Lead	1	0	0.000124	1
7	0	0	7439965	Manganese	1	0	4.64E-05	1
7	0	0	7439976	Mercury	1	0	2.99E-05	1
7	0	0	7440020	Nickel	1	0	5.84E-05	1
7	0	0	7440382	Arsenic	1	0	2.4E-05	1
7	0	0	7440439	Cadmium	1	0	2.25E-05	1
7	0	0	7440508	Copper	1	0	6.14E-05	1
7	0	0	7647010	Hydrochloricacid	1	0	0.00279	1
7	0	0	7664417	Ammonia	1	0	0.0434	1
7	0	0	7782492	Selenium	1	0	3.29E-05	1
7	0	0	18540299	Hexchromium	1	0	1.5E-06	1
8	0	0	9901	DieselExhPM	1	51.4	0	1
8	0	0	1151	PAHsnonNaph	1	0	0.000342	1
8	0	0	50000	Formaldehyde	1	0	0.0106	1
8	0	0	71432	Benzene	1	0	0.00114	1
8	0	0	75070	Acetaldehyde	1	0	0.00479	1
8	0	0	91203	PAHsNaph	1	0	0.00012	1
8	0	0	100414	Ethylbenzene	1	0	6.67E-05	1
8	0	0	106990	13Butadiene	1	0	0.00133	1
8	0	0	107028	Acrolein	1	0	0.000207	1
8	0	0	108883	Toluene	1	0	0.000645	1
8	0	0	110543	Hexane	1	0	0.000165	1
8	0	0	1330207	Xylenes	1	0	0.000259	1
8	0	0	7439921	Lead	1	0	5.08E-05	1
8	0	0	7439965	Manganese	1	0	1.9E-05	1
8	0	0	7439976	Mercury	1	0	1.22E-05	1
8	0	0	7440020	Nickel	1	0	2.39E-05	1
8	0	0	7440382	Arsenic	1	0	9.79E-06	1
8	0	0	7440439	Cadmium	1	0	9.17E-06	1
8	0	0	7440508	Copper	1	0	2.51E-05	1
8	0	0	7647010	Hydrochloricacid	1	0	0.00114	1
8	0	0	7664417	Ammonia	1	0	0.0177	1
8	0	0	7782492	Selenium	1	0	1.35E-05	1
8	0	0	18540299	Hexchromium	1	0	6.12E-07	1
9	0	0	9901	DieselExhPM	1	19.6	0	1
9	0	0	1151	PAHsnonNaph	1	0	0	1
9	0	0	50000	Formaldehyde	1	0	0	1
9	0	0	71432	Benzene	1	0	0	1
9	0	0	75070	Acetaldehyde	1	0	0	1
9	0	0	91203	PAHsNaph	1	0	0	1

9	0	0	100414	Ethylbenzene	1	0	0	1
9	0	0	106990	13Butadiene	1	0	0	1
9	0	0	107028	Acrolein	1	0	0	1
9	0	0	108883	Toluene	1	0	0	1
9	0	0	110543	Hexane	1	0	0	1
9	0	0	1330207	Xylenes	1	0	0	1
9	0	0	7439921	Lead	1	0	0	1
9	0	0	7439965	Manganese	1	0	0	1
9	0	0	7439976	Mercury	1	0	0	1
9	0	0	7440020	Nickel	1	0	0	1
9	0	0	7440382	Arsenic	1	0	0	1
9	0	0	7440439	Cadmium	1	0	0	1
9	0	0	7440508	Copper	1	0	0	1
9	0	0	7647010	Hydrochloricacid	1	0	0	1
9	0	0	7664417	Ammonia	1	0	0	1
9	0	0	7782492	Selenium	1	0	0	1
9	0	0	18540299	Hexchromium	1	0	0	1
10	0	0	9901	DieselExhPM	1	8.28	0	1
10	0	0	1151	PAHsnonNaph	1	0	0	1
10	0	0	50000	Formaldehyde	1	0	0	1
10	0	0	71432	Benzene	1	0	0	1
10	0	0	75070	Acetaldehyde	1	0	0	1
10	0	0	91203	PAHsNaph	1	0	0	1
10	0	0	100414	Ethylbenzene	1	0	0	1
10	0	0	106990	13Butadiene	1	0	0	1
10	0	0	107028	Acrolein	1	0	0	1
10	0	0	108883	Toluene	1	0	0	1
10	0	0	110543	Hexane	1	0	0	1
10	0	0	1330207	Xylenes	1	0	0	1
10	0	0	7439921	Lead	1	0	0	1
10	0	0	7439965	Manganese	1	0	0	1
10	0	0	7439976	Mercury	1	0	0	1
10	0	0	7440020	Nickel	1	0	0	1
10	0	0	7440382	Arsenic	1	0	0	1
10	0	0	7440439	Cadmium	1	0	0	1
10	0	0	7440508	Copper	1	0	0	1
10	0	0	7647010	Hydrochloricacid	1	0	0	1
10	0	0	7664417	Ammonia	1	0	0	1
10	0	0	7782492	Selenium	1	0	0	1
10	0	0	18540299	Hexchromium	1	0	0	1
11	0	0	9901	DieselExhPM	1	0.0244	0	1
11	0	0	1151	PAHsnonNaph	1	0	2.73E-06	1
11	0	0	50000	Formaldehyde	1	0	8.43E-05	1
11	0	0	71432	Benzene	1	0	9.1E-06	1
11	0	0	75070	Acetaldehyde	1	0	3.82E-05	1
11	0	0	91203	PAHsNaph	1	0	9.62E-07	1
11	0	0	100414	Ethylbenzene	1	0	5.32E-07	1
11	0	0	106990	13Butadiene	1	0	1.06E-05	1
11	0	0	107028	Acrolein	1	0	1.66E-06	1
11	0	0	108883	Toluene	1	0	5.15E-06	1
11	0	0	110543	Hexane	1	0	1.31E-06	1
11	0	0	1330207	Xylenes	1	0	2.07E-06	1
11	0	0	7439921	Lead	1	0	4.05E-07	1
11	0	0	7439965	Manganese	1	0	1.51E-07	1

11	0	0	7439976	Mercury	1	0	9.76E-08	1
11	0	0	7440020	Nickel	1	0	1.9E-07	1
11	0	0	7440382	Arsenic	1	0	7.81E-08	1
11	0	0	7440439	Cadmium	1	0	7.32E-08	1
11	0	0	7440508	Copper	1	0	2E-07	1
11	0	0	7647010	Hydrochloricacid	1	0	9.1E-06	1
11	0	0	7664417	Ammonia	1	0	0.000142	1
11	0	0	7782492	Selenium	1	0	1.07E-07	1
11	0	0	18540299	Hexchromium	1	0	4.88E-09	1
12	0	0	9901	DieselExhPM	1	0.0204	0	1
12	0	0	1151	PAHsnonNaph	1	0	2.28E-06	1
12	0	0	50000	Formaldehyde	1	0	7.04E-05	1
12	0	0	71432	Benzene	1	0	7.6E-06	1
12	0	0	75070	Acetaldehyde	1	0	3.2E-05	1
12	0	0	91203	PAHsNaph	1	0	8.04E-07	1
12	0	0	100414	Ethylbenzene	1	0	4.45E-07	1
12	0	0	106990	13Butadiene	1	0	8.87E-06	1
12	0	0	107028	Acrolein	1	0	1.38E-06	1
12	0	0	108883	Toluene	1	0	4.3E-06	1
12	0	0	110543	Hexane	1	0	1.1E-06	1
12	0	0	1330207	Xylenes	1	0	1.73E-06	1
12	0	0	7439921	Lead	1	0	3.39E-07	1
12	0	0	7439965	Manganese	1	0	1.26E-07	1
12	0	0	7439976	Mercury	1	0	8.16E-08	1
12	0	0	7440020	Nickel	1	0	1.59E-07	1
12	0	0	7440382	Arsenic	1	0	6.53E-08	1
12	0	0	7440439	Cadmium	1	0	6.12E-08	1
12	0	0	7440508	Copper	1	0	1.67E-07	1
12	0	0	7647010	Hydrochloricacid	1	0	7.6E-06	1
12	0	0	7664417	Ammonia	1	0	0.000118	1
12	0	0	7782492	Selenium	1	0	8.98E-08	1
12	0	0	18540299	Hexchromium	1	0	4.08E-09	1
13	0	0	9901	DieselExhPM	1	0.0392	0	1
13	0	0	1151	PAHsnonNaph	1	0	4.38E-06	1
13	0	0	50000	Formaldehyde	1	0	0.000135	1
13	0	0	71432	Benzene	1	0	1.46E-05	1
13	0	0	75070	Acetaldehyde	1	0	6.14E-05	1
13	0	0	91203	PAHsNaph	1	0	1.54E-06	1
13	0	0	100414	Ethylbenzene	1	0	8.54E-07	1
13	0	0	106990	13Butadiene	1	0	1.7E-05	1
13	0	0	107028	Acrolein	1	0	2.66E-06	1
13	0	0	108883	Toluene	1	0	8.26E-06	1
13	0	0	110543	Hexane	1	0	2.11E-06	1
13	0	0	1330207	Xylenes	1	0	3.32E-06	1
13	0	0	7439921	Lead	1	0	6.5E-07	1
13	0	0	7439965	Manganese	1	0	2.43E-07	1
13	0	0	7439976	Mercury	1	0	1.57E-07	1
13	0	0	7440020	Nickel	1	0	3.06E-07	1
13	0	0	7440382	Arsenic	1	0	1.25E-07	1
13	0	0	7440439	Cadmium	1	0	1.18E-07	1
13	0	0	7440508	Copper	1	0	3.21E-07	1
13	0	0	7647010	Hydrochloricacid	1	0	1.46E-05	1
13	0	0	7664417	Ammonia	1	0	0.000227	1
13	0	0	7782492	Selenium	1	0	1.72E-07	1

13	0	0	18540299	Hexchromium	1	0	7.84E-09	1
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Background

PolID	PolAbbrev	Conc (ug/m^3)	MWAF
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Ground level concentration files (\glc\)

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100414MAXHR.txt  
 100414PER.txt  
 106990MAXHR.txt  
 106990PER.txt  
 107028MAXHR.txt  
 107028PER.txt  
 108883MAXHR.txt  
 108883PER.txt  
 110543MAXHR.txt  
 110543PER.txt  
 1151MAXHR.txt  
 1151PER.txt  
 1330207MAXHR.txt  
 1330207PER.txt  
 18540299MAXHR.txt  
 18540299PER.txt  
 50000MAXHR.txt  
 50000PER.txt  
 71432MAXHR.txt  
 71432PER.txt  
 7439921MAXHR.txt  
 7439921PER.txt  
 7439965MAXHR.txt  
 7439965PER.txt  
 7439976MAXHR.txt  
 7439976PER.txt  
 7440020MAXHR.txt  
 7440020PER.txt  
 7440382MAXHR.txt  
 7440382PER.txt  
 7440439MAXHR.txt  
 7440439PER.txt  
 7440508MAXHR.txt  
 7440508PER.txt  
 75070MAXHR.txt  
 75070PER.txt  
 7647010MAXHR.txt  
 7647010PER.txt  
 7664417MAXHR.txt  
 7664417PER.txt  
 7782492MAXHR.txt  
 7782492PER.txt  
 91203MAXHR.txt  
 91203PER.txt  
 9901MAXHR.txt  
 9901PER.txt

\*\*\*POLLUTANT HEALTH INFORMATION\*\*\*

Health Database: C:\HARP2\Tables\HEALTH17320.mdb

Health Table Version: HEALTH23118

Official: True

PolID	PolAbbrev	InhCancer	OralCancer	AcuteREL	InhChronicREL	OralChronicREL
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9901	DieselExhPM	1.1		5		
1151	PAHs-w/o	3.9	12			
50000	Formaldehyde	0.021		55	9	9
71432	Benzene	0.1	27	3	3	
75070	Acetaldehyde	0.01	470	140		300
91203	Naphthalene	0.12		9		
100414	Ethyl Benzene	0.0087		2000		
106990	1,3-Butadiene	0.6	660	2		9
107028	Acrolein		2.5	0.35		0.7
108883	Toluene		5000	420		830
110543	Hexane			7000		
1330207	Xylenes		22000	700		
7439921	Lead	0.042	0.0085			
7439965	Manganese			0.09		0.17
7439976	Mercury		0.6	0.03	0.00016	0.06
7440020	Nickel	0.91	0.2	0.014	0.011	0.06
7440382	Arsenic	12	1.5	0.015	3.5E-06	0.015
7440439	Cadmium	15		0.02	0.0005	
7440508	Copper		100			
7647010	HCl		2100	9		
7664417	NH3		3200	200		
7782492	Selenium			20	0.005	
18540299	Cr(VI)	510	0.5	0.2	0.02	

\*\*\*AIR DISPERSION MODELING INFORMATION\*\*\*

Versions used in HARP. All executables were obtained from USEPA's Support Center for Regulatory Atmospheric Modeling website (<http://www.epa.gov/scram001/>)

AERMOD: 18081

AERMAP: 18081

BPIPPRM: 04274

AERPLOT: 13329

\*\*\*METEOROLOGICAL INFORMATION\*\*\*

Version:

Surface File: C:\HARP2\Projects\Carp\Carp12-16.SFC

Profile File: C:\HARP2\Projects\Carp\Carp12-16.PFL

Surface Station: 23190

Upper Station: 93214

On-Site Station: 8

Start Date & Time: 12 1 1 1

End Date & Time: 16 12 31 24

Hours Processed: 43848

Calm Hours: 93

Missing Hours: 702

\*\*\*LIST OF AIR DISPERSION FILES\*\*\*

AERMOD Input File: \CARPINTERIA\_AERMOD.inp  
AERMOD Output File: \CARPINTERIA\_AERMOD.out  
AERMOD Error File: \CARPINTERIA\_AERMOD.ERR  
Plotfile list

---

MAX1HR1.PLT  
MAX1HR10.PLT  
MAX1HR11.PLT  
MAX1HR12.PLT  
MAX1HR13.PLT  
MAX1HR2.PLT  
MAX1HR3.PLT  
MAX1HR4.PLT  
MAX1HR5.PLT  
MAX1HR6.PLT  
MAX1HR7.PLT  
MAX1HR8.PLT  
MAX1HR9.PLT  
PERIOD1.PLT  
PERIOD10.PLT  
PERIOD11.PLT  
PERIOD12.PLT  
PERIOD13.PLT  
PERIOD2.PLT  
PERIOD3.PLT  
PERIOD4.PLT  
PERIOD5.PLT  
PERIOD6.PLT  
PERIOD7.PLT  
PERIOD8.PLT  
PERIOD9.PLT

\*\*\*LIST OF RISK ASSESSMENT FILES\*\*\*

Health risk analysis files (\hra\)

---

1.Carp572CancerRisk.csv  
1.Carp572CancerRiskSumByRec.csv  
1.Carp572GLCLList.csv  
1.Carp572HRAInput.hra  
1.Carp572PathwayRec.csv  
1.Carp572PolDB.csv  
10.Carp572CancerRisk.csv  
10.Carp572CancerRiskSumByRec.csv  
10.Carp572GLCLList.csv  
10.Carp572HRAInput.hra  
10.Carp572PathwayRec.csv  
10.Carp572PolDB.csv  
11.Carp572CancerRisk.csv  
11.Carp572CancerRiskSumByRec.csv  
11.Carp572GLCLList.csv  
11.Carp572HRAInput.hra  
11.Carp572PathwayRec.csv



11.Carp572PolDB.csv  
12.Carp572CancerRisk.csv  
12.Carp572CancerRiskSumByRec.csv  
12.Carp572GLCList.csv  
12.Carp572HRAInput.hra  
12.Carp572PathwayRec.csv  
12.Carp572PolDB.csv  
13.Carp572CancerRisk.csv  
13.Carp572CancerRiskSumByRec.csv  
13.Carp572GLCList.csv  
13.Carp572HRAInput.hra  
13.Carp572PathwayRec.csv  
13.Carp572PolDB.csv  
2.Carp572CancerRisk.csv  
2.Carp572CancerRiskSumByRec.csv  
2.Carp572GLCList.csv  
2.Carp572HRAInput.hra  
2.Carp572PathwayRec.csv  
2.Carp572PolDB.csv  
3.Carp572CancerRisk.csv  
3.Carp572CancerRiskSumByRec.csv  
3.Carp572GLCList.csv  
3.Carp572HRAInput.hra  
3.Carp572PathwayRec.csv  
3.Carp572PolDB.csv  
4.Carp572CancerRisk.csv  
4.Carp572CancerRiskSumByRec.csv  
4.Carp572GLCList.csv  
4.Carp572HRAInput.hra  
4.Carp572PathwayRec.csv  
4.Carp572PolDB.csv  
5.Carp572CancerRisk.csv  
5.Carp572CancerRiskSumByRec.csv  
5.Carp572GLCList.csv  
5.Carp572HRAInput.hra  
5.Carp572PathwayRec.csv  
5.Carp572PolDB.csv  
6.Carp572CancerRisk.csv  
6.Carp572CancerRiskSumByRec.csv  
6.Carp572GLCList.csv  
6.Carp572HRAInput.hra  
6.Carp572PathwayRec.csv  
6.Carp572PolDB.csv  
7.Carp572CancerRisk.csv  
7.Carp572CancerRiskSumByRec.csv  
7.Carp572GLCList.csv  
7.Carp572HRAInput.hra  
7.Carp572PathwayRec.csv  
7.Carp572PolDB.csv  
8.Carp572CancerRisk.csv  
8.Carp572CancerRiskSumByRec.csv  
8.Carp572GLCList.csv  
8.Carp572HRAInput.hra  
8.Carp572PathwayRec.csv

8.Carp572PolDB.csv  
9.Carp572CancerRisk.csv  
9.Carp572CancerRiskSumByRec.csv  
9.Carp572GLCList.csv  
9.Carp572HRAInput.hra  
9.Carp572PathwayRec.csv  
9.Carp572PolDB.csv  
AQ GHG.lnk  
Carp572CancerRisk.csv  
Carp572CancerRiskSumByRec.csv  
Carp572CancerRiskSumByRecBySrc.csv  
Carp572GLCList.csv  
Carp572HRAInput.hra  
Carp572Output.txt  
Carp572PathwayRec.csv  
Carp572PolDB.csv  
CarpCancerRisk.csv  
CarpCancerRiskSumByRec.csv  
CarpGLCList.csv  
CarpHRAInput.hra  
CarpNCAcuteRisk.csv  
CarpNCAcuteRiskSumByRec.csv  
CarpNCChronicRisk.csv  
CarpNCChronicRiskSumByRec.csv  
CarpOutput.txt  
CarpPathwayRec.csv  
CarpPolDB.csv

Spatial averaging files (\sa\)

---

GLCs loaded successfully  
Pollutants loaded successfully  
Pathway receptors loaded successfully  
\*\*\*\*\*

## RISK SCENARIO SETTINGS

Receptor Type: Resident  
Scenario: Cancer  
Calculation Method: Derived

\*\*\*\*\*

## EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25  
Total Exposure Duration: 2

Exposure Duration Bin Distribution  
3rd Trimester Bin: 0.25  
0<2 Years Bin: 2  
2<9 Years Bin: 0  
2<16 Years Bin: 0  
16<30 Years Bin: 0  
16 to 70 Years Bin: 0

\*\*\*\*\*

## PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True  
Soil: True  
Dermal: True  
Mother's milk: True  
Water: False  
Fish: False  
Homegrown crops: True  
Beef: False  
Dairy: False  
Pig: False  
Chicken: False  
Egg: False

\*\*\*\*\*

## INHALATION

Daily breathing rate: RMP

\*\*Worker Adjustment Factors\*\*

Worker adjustment factors enabled: NO

**\*\*Fraction at time at home\*\***  
3rd Trimester to 16 years: OFF  
16 years to 70 years: ON

\*\*\*\*\*  
**SOIL & DERMAL PATHWAY SETTINGS**

Deposition rate (m/s): 0.05  
Soil mixing depth (m): 0.01  
Dermal climate: Warm

\*\*\*\*\*  
**HOME GROWN CROP PATHWAY SETTINGS**

Household type: HouseholdsthatGarden  
Fraction leafy: 0.137  
Fraction exposed: 0.137  
Fraction protected: 0.137  
Fraction root: 0.137

\*\*\*\*\*  
**TIER 2 SETTINGS**

Tier2 adjustments were used in this assessment. Please see the input file for details.  
Tier2 - What was changed: ED or start age changed|  
Calculating cancer risk  
Cancer risk breakdown by pollutant and receptor saved to:  
C:\HARP2\Projects\Carp\CARPINTERIA\hra\CarpCancerRisk.csv  
Cancer risk total by receptor saved to: C:\HARP2\Projects\Carp\CARPINTERIA\hra\CarpCancerRiskSumByRec.csv  
HRA ran successfully

GLCs loaded successfully  
Pollutants loaded successfully  
Pathway receptors loaded successfully  
\*\*\*\*\*

## RISK SCENARIO SETTINGS

Receptor Type: Resident  
Scenario: NCAcute  
Calculation Method: Derived

\*\*\*\*\*

## EXPOSURE DURATION PARAMETERS FOR CANCER

\*\*Exposure duration are only adjusted for cancer assessments\*\*

\*\*\*\*\*

## PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True  
Soil: False  
Dermal: False  
Mother's milk: False  
Water: False  
Fish: False  
Homegrown crops: False  
Beef: False  
Dairy: False  
Pig: False  
Chicken: False  
Egg: False

\*\*\*\*\*

## INHALATION

Daily breathing rate: LongTerm24HR

\*\*Worker Adjustment Factors\*\*

Worker adjustment factors enabled: NO

\*\*Fraction at time at home\*\*

NOTE: Exposure duration (i.e., start age, end age, ED, & FAH) are only adjusted for cancer assessments.

\*\*\*\*\*

## TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.

Tier2 - What was changed: ED or start age changed|

Calculating acute risk

Acute risk breakdown by pollutant and receptor saved to:

C:\HARP2\Projects\Carp\CARPINTERIA\hra\CarpNCAcuteRisk.csv

Acute risk total by receptor saved to: C:\HARP2\Projects\Carp\CARPINTERIA\hra\CarpNCAcuteRiskSumByRec.csv

HRA ran successfully

GLCs loaded successfully  
Pollutants loaded successfully  
Pathway receptors loaded successfully  
\*\*\*\*\*

## RISK SCENARIO SETTINGS

Receptor Type: Resident  
Scenario: NCChronic  
Calculation Method: Derived

\*\*\*\*\*

## EXPOSURE DURATION PARAMETERS FOR CANCER

\*\*Exposure duration are only adjusted for cancer assessments\*\*

\*\*\*\*\*

## PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True  
Soil: True  
Dermal: True  
Mother's milk: True  
Water: False  
Fish: False  
Homegrown crops: True  
Beef: False  
Dairy: False  
Pig: False  
Chicken: False  
Egg: False

\*\*\*\*\*

## INHALATION

Daily breathing rate: LongTerm24HR

\*\*Worker Adjustment Factors\*\*

Worker adjustment factors enabled: NO

\*\*Fraction at time at home\*\*

NOTE: Exposure duration (i.e., start age, end age, ED, & FAH) are only adjusted for cancer assessments.

\*\*\*\*\*

## SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.05  
Soil mixing depth (m): 0.01  
Dermal climate: Warm

\*\*\*\*\*

## HOME GROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden

Fraction leafy: 0.137

Fraction exposed: 0.137

Fraction protected: 0.137

Fraction root: 0.137

\*\*\*\*\*

## TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.

Tier2 - What was changed: ED or start age changed|

Calculating chronic risk

Chronic risk breakdown by pollutant and receptor saved to:

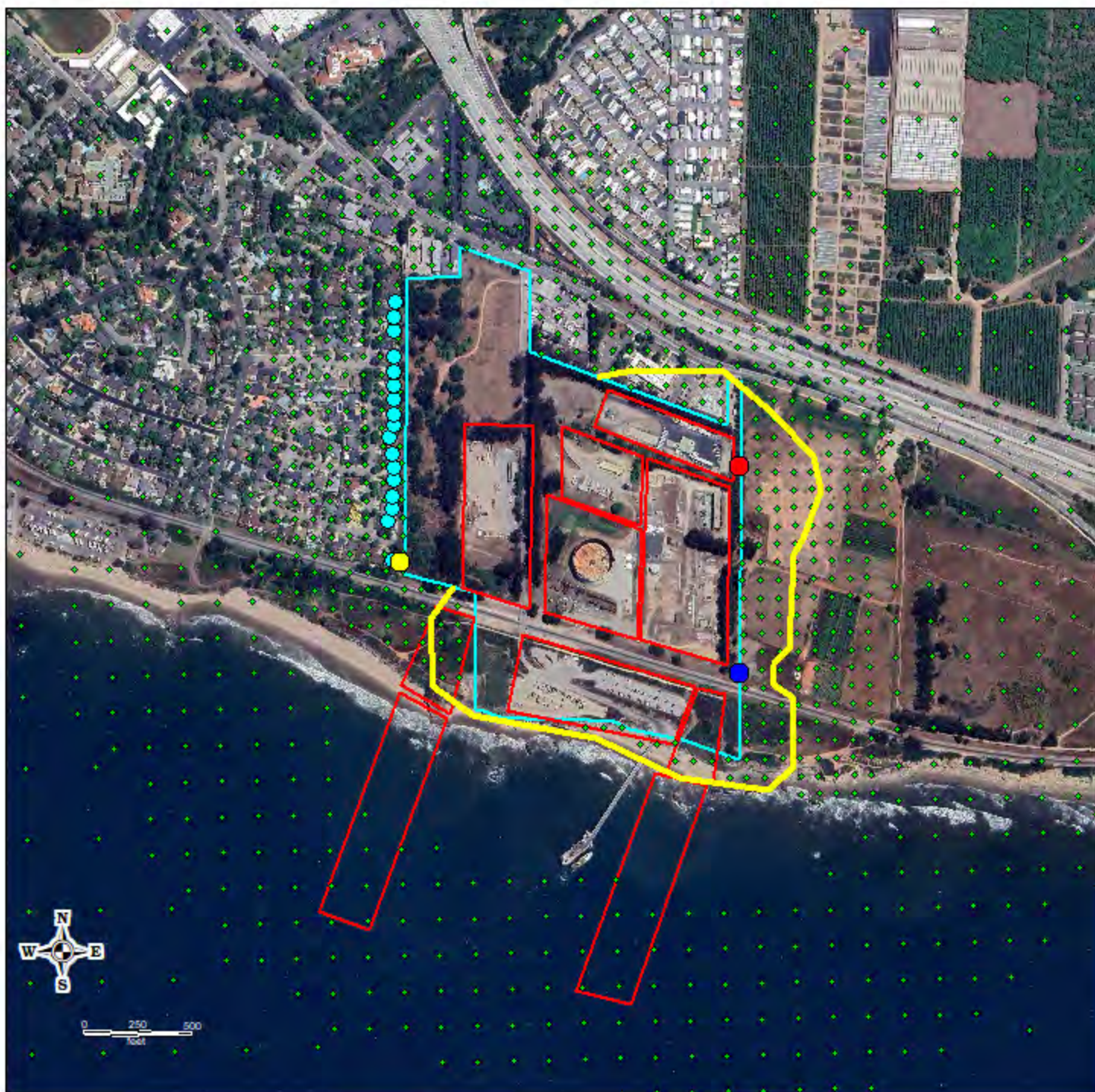
C:\HARP2\Projects\Carp\CARPINTERIA\hra\CarpNCChronicRisk.csv

Chronic risk total by receptor saved to:

C:\HARP2\Projects\Carp\CARPINTERIA\hra\CarpNCChronicRiskSumByRec.csv

HRA ran successfully





◆ Grid Point  
 ● Residential Receptor

□ Area Source  
 — 10 in a million cancer risk

● Cancer PMI  
 ● Max Residential Cancer (MEIR)  
 ● Max Acute Risk

## **Appendix C**

### **Biological Studies**

## **Appendix C – Biological Studies**

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C-3: Tree Maintenance and Hazard Reduction Plan .....	C-99
C-4: Coastal Wetlands Delineation Report .....	C-123
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## **Appendix C-1**

### **Terrestrial Biological Resources Study**

**TERRESTRIAL BIOLOGICAL RESOURCES STUDY**

**DECOMMISSIONING AND REMEDIATION OF THE  
CARPINTERIA OIL AND GAS PROCESSING FACILITIES  
CARPINTERIA, SANTA BARBARA COUNTY, CALIFORNIA**

**Project No. 2002-5211**

**Prepared for:**

Chevron West Coast Decommissioning Program  
3916 State Street, Suite 200  
Santa Barbara, CA 93105

June 2021  
Revision 1: December 2021  
Revision 2: December 2022

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## 1.0 REPORT SUMMARY

This Terrestrial Biological Resources Study (Study) has been prepared on behalf of Chevron U.S.A. Inc. (Chevron) for the Carpinteria Oil and Gas Processing Facilities (Project Site). The Project Site is divided into 12 Operational Areas, as listed in Table 1, and presented in Figure 1. The Study is a compilation of biological survey and biological monitoring data collected at different portions of the Project Site from 1998 (as originally documented in 2004) present in support of various operational, maintenance, demolition, and interim soil cleanup activities conducted onsite.

This survey includes the Onshore Processing Facility both north and south of the Union Pacific Railroad right-of-way out to the edge of the bluffs along its southern boundary. The beach crossing, intertidal and offshore pipeline corridor areas are addressed in a separate study. Current conditions at the Project Site are presented in this Study, unless otherwise indicated for historical context. Where appropriate, the inventory of biological resources at the Project Site is denoted by which of the Operational Areas each resource was observed at or is expected to occur.

**Table 1. Operational Areas of the Project Site (in alphabetical order)**

Name	Description
Buffer Zone	Mostly undeveloped, but actively managed open-space and a City-designated Environmentally Sensitive Habitat Area.
Chevron Pipeline Area	Comprised mainly of a large, former oil storage tank and earthen containment basin.
Drainage Area No. 4	Contiguous with the Buffer Zone at its lower extent and a City-designated Environmentally Sensitive Habitat Area. Has undergone substantial revegetation efforts in the last decade.
Former Marketing Terminal Area	Mostly developed <sup>1</sup> , but also contains a concrete drainage ditch, and has undergone substantial revegetation efforts in its southern portion.
Former Nursery Area	Mostly undeveloped, but contains a remnant portion of asphalt road, historically cultivated, but fallow for over 20 years, and was seeded with annual grasses and native herbs in 2012.
Former Sandblast Area	Mostly undeveloped, having undergone past remediation and revegetation.
Main Plant Area	Entirely developed, with various tree windrow divisions.
MSRC Lease Area	Entirely developed, bordered by tree windrows.
Peninsula Area	Northeast access route beneath tree windrows.
Pier Parking Lot	Mostly developed bordered by Tar Pits Park and Carpinteria Bluffs Trail revegetation.
Pipeline Bluffs Crossing Area	Within or adjacent to eastern extent of Tar Pits Park and Carpinteria Bluffs Trail.
Shop and Maintenance Area	Mostly developed, with ornamental or native (planted) trees.

<sup>1</sup> The term "developed" is used to describe areas supporting buildings or other structures or surfaced with pavement or gravel that do not support vegetation, or at most, patchy ruderal vegetation



## **2.0 SETTING**

### **2.1 REGIONAL SETTING**

The Project Site is in the coastal zone within the City of Carpinteria in southeastern Santa Barbara County, California. The Project Site is bounded by the beach/coastal strand adjoining the Santa Barbara Channel, an east-west trending channel in the eastern Pacific Ocean. The Project Site is located on the coastal plain of Carpinteria Valley, adjacent to open space and agricultural lands. However, much of the area surrounding the Project Site has been developed into residential land uses adjacent to or within remnants of coastal scrub, annual grasslands or mature, mixed woodland areas (e.g., planted and native trees consisting of eucalyptus, sycamore, cottonwood, cypress, pine, and oak, and willow trees). The coastal plain is bordered to the north by the Santa Ynez Mountains, an east-west trending mountain range, which drains small, steep watersheds onto the coastal terrace. Carpinteria Creek is located approximately 0.5 miles west of the Project Site and has been designated as an Environmentally Sensitive Habitat Area (ESHA). Other biologically important areas include the Carpinteria Salt Marsh (located approximately 1.5 miles to the northwest) and Carpinteria Bluffs (located approximately 1,500 feet to the east).

### **2.2 APPLICABLE CITY GENERAL PLAN POLICIES**

The City of Carpinteria General Plan and Local Coastal Plan (2003) identified portions of the Project Site as being part of the Carpinteria Bluffs ESHA, including the Buffer Zone, Pier Parking Lot, Former Sand Blast Area, and Pipeline Bluffs Crossing Area. In addition, the eucalyptus windrow bordering the eastern edge of the Project Site and the agricultural field east of the Project Site were mapped as ESHA in the General Plan and Local Coastal Plan. Note, however, that portions of some of these areas are developed and the General Plan and Local Coastal Plan states, “the designations of the land use plan are not definitive and are to be supplemented with subsequent program and project level resources study and mapping.”

According to the City of Carpinteria General Plan 2019 Annual Progress Report (accepted May 11, 2020), “the City’s Land Use Map (2016) designates environmentally sensitive habitat areas within and surrounding Carpinteria. These natural areas are often protected as open space and/or recreation zones, include the bluffs, wetlands, salt marsh, beaches, tidelands, subtidal reefs, harbor seal rookery and haulouts, creekways and riparian habitats, native plant communities, and butterfly habitat.” The City’s Land Use Map’s Open Space/Recreation land use designation presumably delineates the ESHA boundaries within the Project Site to currently be limited to the Buffer Zone and Pipeline Bluffs Crossing Area. The remaining areas listed above formerly as ESHA, in addition to other developed portions of the Project Site that were formerly not designated ESHA are zoned as Coastal Dependent Industry or Planned Unit Development.



Objective OSC-1 of the City of Carpinteria General Plan and Local Coastal Plan is to “Protect, preserve and enhance local natural resources and habitats.” This includes prohibiting activities that could damage or destroy ESHA, and establishing and supporting preservation and restoration programs for ESHA. Objective OSC-1 includes a list of Implementation Policies requiring compliance with the California Environmental Quality Act (CEQA), and maintaining an ESHA Overlay zoning district intended to provide maximum protection to sensitive resources. The ESHA Overlay district applies to any parcel identified as ESHA either on an official resource map adopted by the City or through the City’s development review process, any parcel meeting the ESHA criteria provided in the General Plan and Local Coastal Plan, and any parcel located within 250 feet of a parcel so designated or determined to be ESHA.

Objective OSC-2 of the City of Carpinteria General Plan and Local Coastal Plan is to “Preserve and restore the natural resources of the Carpinteria Bluffs.” Policy OSC-2i under Objective OSC-2 states:

“Preserve all windrow trees as one part of a contiguous and naturally preserved open space system across the whole of the Carpinteria Bluffs. Thinning, pruning and removal of trees shall be limited to what is necessary to maintain the trees in a healthful condition and to remove any hazardous condition. When a tree is approved by the City for removal, it shall be required to be replaced at a ratio appropriate to ensure infill of any gap created in the windrow and with a tree type and size to be approved by the City. Replacement trees that fail to survive within the first five years after planting shall be replaced. Planting of native trees is encouraged as are programs for phased removal and replacement of tamarisk windrows in favor of native tree windrows. Development or other activity proposed on parcels including windrows shall be setback a minimum of 10 feet from the drip line of the trees and shall not result in compacting of soil or other potential damage to the trees’ root system or water source.”

According to the City of Carpinteria Guidelines for the Implementation of the California Environmental Quality Act (CEQA) for impacts to biological resources, specimen trees are defined in the City’s Municipal Code as:

“those with a diameter of at least six inches measured four feet above the ground with a minimum height of at least six feet. For trees that do not have a single trunk, the diameter of all upright woody stems should be combined for the measurement of the diameter...All native tree species, regardless of size, should be considered to be biologically valuable. In particular, young oak trees which do not meet the definition of specimen trees are a significant biological resource due to declining oak populations.”

## 2.3 LOCAL SETTING

### 2.3.1 Trees

Based on the importance of certain tree windrows expressed in the City's General Plan and Local Plan Policy OSC-2i and City Guidelines, a tree inventory was completed in 2004 for the interim remediation measures conducted within the Buffer Zone (including Drainage Area No. 4) and Former Nursery Area. It was noted at the time that most of the oaks were saplings, 1 to 3 inches in diameter at breast height, and the largest oak was only 12 inches in diameter at breast height. Since that time, many of these trees within the Buffer Zone have grown in stature or have sustained their windrow composition and areal coverage. Notably, however, many of the Monterey pine (*Pinus radiata*) trees have naturally died off and have been felled to eliminate safety hazards. Recent vegetation management of a 30-foot-wide swath along the western fence line of the Former Nursery Area and Buffer Zone for defensible space against fire also removed two (2) Mexican fan palm (*Washingtonia robusta*) trees. To obtain an accurate tally of all the trees currently present within the Project Site, a follow-up inventory of all the remaining Operational Areas was completed in April 2021. Table 2 provides the current totals of live tree quantities per species at the Project Site. Additional information on tree windrows is provided in the Vegetation section below.

**Table 2. Tree Inventory of the Project Site**

Common Name	Scientific Name	Tally (2021)	Origin
Blue gum	<i>Eucalyptus globulus</i>	677	Non-native, planted, some on-site reproduction
Monterey pine	<i>Pinus radiata</i>	42	Introduced, planted
Aleppo pine	<i>Pinus halepensis</i>	2	Non-native, planted
Monterey cypress	<i>Cupressus macrocarpa</i>	38	Introduced, planted
Coast live oak	<i>Quercus agrifolia</i>	225	Native, colonized site, planted, on-site reproduction
London plane tree	<i>Platanus x. acerifolia</i>	4	Introduced, planted
Western sycamore	<i>Platanus racemosa</i>	80	Native, planted, on-site reproduction
Arroyo willow	<i>Salix lasiolepis</i>	51	Native, colonized site
Mexican fan palm	<i>Washingtonia robusta</i>	4	Non-native, colonized site
Norfolk Island pine	<i>Araucaria heterophylla</i>	1	Non-native, planted
Victorian box	<i>Pittosporum undulatum</i>	31	Non-native, planted
Myoporum	<i>Myoporum laetum</i>	10	Non-native, planted
Brazilian pepper	<i>Schinus terebinthifolius</i>	5	Non-native, planted
Oregon ash	<i>Fraxinus latifolia</i>	9	Introduced, planted
Athel tamarisk	<i>Tamarix aphylla</i>	93	Non-native, planted
Dawn redwood	<i>Metasequoia glyptostroboides</i>	7	Non-native, planted
Avocado	<i>Persea americana</i>	5	Non-native, planted
Sydney golden wattle	<i>Acacia longifolia</i>	12	Non-native, planted
Chinese elm	<i>Ulmus parvifolia</i>	7	Non-native, planted

Common Name	Scientific Name	Tally (2021)	Origin
Toyon	<i>Heteromeles arbutifolia</i>	135	Native, planted, on-site reproduction
Various fruit	<i>Not specified</i>	6	Non-native, planted
Other ornamental	<i>Not specified</i>	4	Non-native, planted
Blue elderberry	<i>Sambucus nigra ssp. caerulea</i>	52	Native, planted, on-site reproduction
<b>Total:</b>		<b>1,500</b>	

### 2.3.2 Vegetation

The majority of the Project Site has been historically cleared for various oil and gas industrial or municipal purposes or was planted with fruit/nut trees and landscaping trees (Buffer Zone) or nursery stock (Former Nursery Area), and thus is highly disturbed from a biological perspective. Vegetation, where present, primarily consists of stands of non-native trees and non-native grasses or ruderal fields, with exception to several native plant restoration areas within Drainage Area No. 4, the southern end of the Former Marketing Terminal Area, the entrance to the Pier Parking Lot, and at the Former Sandblast Area. Native scrub and non-native iceplant mats are also present along the bluffs to the east and west of the Pier Parking Lot.

The following paragraphs describe on-site vegetation, classify each vegetation type to the extent feasible according to the California Native Plant Society (CNPS) A Manual of California Vegetation Online (MCV Online, source: <https://vegetation.cnps.org>), and identify plant species of which they are composed. Table 3 provides the acreage and locations of each vegetation type throughout the Project Site. Where labeled with an asterisk in the State/Global Rarity Rank column and/or described as “planted” within the last 15 years, the MCV Online classification provided is considered the closest approximation to the natural vegetation community it represents, based on dominant species present. Figures 2a through 2c provide a vegetation map of the Project Site.

**Table 3. Vegetation of the Project Site**

General Category/Map Code	MCV Online Classification	State/Global Rarity Ranks	Onsite Acreage	Present at:
Tree Windrows / EUC	<i>Eucalyptus</i> spp. – <i>Ailanthus altissima</i> – <i>Robinia pseudoacacia</i> Woodland Semi-Natural Alliance (Eucalyptus – tree of heaven – black locust groves)	Unranked	7.6	Buffer Zone, Former Nursery Area, Shop & Maintenance Area, MSRC Lease Area, Peninsula Area, Drainage Area No. 4, Former Marketing Terminal Area, Chevron Pipeline Area, and Main Plant Area.
Tree Windrows / TAM	<i>Tamarix</i> spp. Shrubland Semi-Natural Alliance (Tamarisk thickets)	Unranked	0.6	Main Plant Area, and MSRC Lease Area.

**Table 3. (Continued)**

General Category/Map Code	MCV Online Classification	State/Global Rarity Ranks	Onsite Acreage	Present at:
Arroyo Willow Thicket / WIL	<i>Salix lasiolepis</i> Shrubland Alliance (Arroyo willow thickets)	S4/G4	0.4	Drainage Area No. 4, Chevron Pipeline Area, Pipeline Bluff Crossing Area, and Former Sandblast Area.
Mixed Woodland / OAK	<i>Quercus agrifolia</i> Forest & Woodland Alliance (Coast live oak woodland and forest)	S4/G5	5.8	Buffer Zone, Shop & Maintenance Area, and Drainage Area No. 4. Several emergent western sycamores are present in an upland area within the Buffer Zone.
Coastal Scrub / CS	<i>Artemisia californica</i> – ( <i>Salvia leucophylla</i> ) Shrubland Alliance (California sagebrush – [purple sage] scrub)	S5/G5	0.8	Buffer Zone, Drainage Area No. 4, and Former Marketing Terminal Area. Several emergent (planted) blue elderberry trees are present.
Coastal Scrub / SB	<i>Atriplex lentiformis</i> Shrubland Alliance (Quailbush scrub)	S4/G4	1.8	Pipeline Bluff Crossing Area, Pier Parking Lot, and Former Sandblast Area.
Coastal Scrub / CB	<i>Baccharis pilularis</i> Shrubland Alliance (Coyote brush scrub)	S5/G5	2.1	Pier Parking Lot, and Former Sandblast Area.
Coastal Scrub / MF	<i>Baccharis salicifolia</i> Shrubland Alliance (Mulefat thickets)	S4/G4*	0.06	Planted in Drainage Area No. 4.
Coastal Scrub / GB	<i>Isocoma menziesii</i> Shrubland Alliance (Menzies's golden bush scrub)	S3/G3	0.4	Pier Parking Lot bluff edge.
Chaparral / TOY	<i>Heteromeles arbutifolia</i> – <i>Artemisia californica</i> Association (37.911.02)	S4/G5*	0.9	Toyon planted in Drainage Area No. 4, with California sagebrush and coyote brush as co-dominants.
Chaparral / LB	<i>Rhus integrifolia</i> Shrubland Alliance (Lemonade berry scrub)	S3/G3*	0.7	Planted along Pier Parking Lot, and growing naturally along the Former Sandblast Area bluff edge.
Iceplant Mat / IP	<i>Mesembryanthemum</i> spp. - <i>Carpobrotus</i> spp. Herbaceous Semi-Natural Alliance (Ice plant mats)	Unranked	1.6	Pipeline Bluff Crossing Area, and Pier Parking Lot, dominated by <i>Carpobrotus edulis</i> .
Annual Grassland / AG	<i>Brassica nigra</i> – <i>Centaurea (solstitialis, melitensis)</i> Herbaceous Semi-Natural Alliance (Upland mustards or star-thistle fields)	Unranked	6.6	Former Nursery Area, Former Marketing Terminal Area, and Chevron Pipeline Area.

**Table 3. (Continued)**

General Category	MCV Online Classification	State/Global Rarity Ranks	Onsite Acreage	Present at:
Annual Grassland / AG	<i>Avena</i> spp. – <i>Bromus</i> spp. Herbaceous Semi-Natural Alliance (Wild oats and annual brome grasslands)	Unranked	2.5	Former Nursery Area, Former Marketing Terminal Area, and Chevron Pipeline Area.
Developed Land / DEV	Not specified (mostly bare ground or patchy ruderal vegetation)	Unranked	23.9	Main Plant Area, Shop and Maintenance Area, and Chevron Pipeline Area.

State and global rarity ranks for the vegetation types:

S3: Vulnerable in the state

S4: Apparently Secure - Uncommon but not rare in the state

S5: Secure - Common, widespread, and abundant in the state

G3: Vulnerable - At moderate risk of extinction

G4: Apparently Secure - Uncommon but not rare

G5: Secure - Common; widespread and abundant

**Tree Windrows** MCV Online: *Eucalyptus* spp. – *Ailanthus altissima* – *Robinia pseudoacacia* Woodland Semi-Natural Alliance (Eucalyptus – tree of heaven – black locust groves) (No State/Global Rarity Rank); *Tamarix* spp. Shrubland Semi-Natural Alliance (Tamarisk thickets) (No State/Global Rarity Rank). Tree windrows comprised mostly of blue gum (*Eucalyptus globulus*), and to a lesser degree of athel tamarisk (*Tamarix aphylla*), occur between the Buffer Zone and Former Marketing Terminal Area, along both sides of Dump Road, on both sides of the MSRC Lease Area, and along the east edge of the entire Project Site from the Peninsula Area, south along the Main Plant Area.

The eastern edge of the Former Marketing Terminal Area also supports a row of Chinese elm (*Ulmus parvifolia*) trees. Some of the more densely planted stands provide cover, roosting and nesting habitat for a number of bird species (e.g., red-tailed hawk, Anna's hummingbird, and yellow-rumped warbler), and historically, the windrow between the Buffer Zone and Former Marketing Terminal Area has supported roosting Monarch butterflies, particularly on the Buffer Zone (west) side of the windrow. Tree windrows were first introduced at the Project Site as windbreaks for agricultural fields, and later to screen oil and gas facilities.

**Mixed Woodland** MCV Online: *Quercus agrifolia* Forest & Woodland Alliance (Coast live oak woodland and forest) (S4/G5). Trees and intervening areas of non-native grassland occur within the Buffer Zone, form a woodland community. The trees include coast live oak (*Quercus agrifolia*) and western sycamore (*Platanus racemosa*), but are also intermixed with Monterey pine, Monterey cypress (*Hesperocyparis macrocarpa*) trees, or abut Eucalyptus groves or tree windrows within the Buffer Zone. Open areas between tree clusters support perennial rye grass (*Festuca perennis*), slender wild oats (*Avena barbata*), and hare barley (*Hordeum murinum*). The trees provide cover and roosting habitat for a number of bird species and historically for Monarch butterflies. Grass areas provide foraging habitat for small reptiles and mammals, as well as birds. This area was planted to provide a buffer between the Former

Marketing Terminal and the Concha Loma residential neighborhood to the west subsequent to row crop and orchard tree farming in the early to mid-20<sup>th</sup> century based on historical aerial imagery interpretation.

Smaller, more isolated patches of mixed woodland trees occur along the margins of the Shop and Maintenance Area, supporting coast live oak, Oregon ash and non-native dawn redwood trees abutting the tamarisk and eucalyptus windrows. Stands of non-native trees including these species in addition to London plane (*Platanus x acerifolia*) are labeled as Ornamental on the attached vegetation map.

**Coastal Scrub and Chaparral** MCV Online: *Artemisia californica* – (*Salvia leucophylla*) Shrubland Alliance (California sagebrush – [purple sage] scrub) (S5/G5); *Atriplex lentiformis* Shrubland Alliance (Quailbush scrub) (S4/G4); *Baccharis pilularis* Shrubland Alliance (Coyote brush scrub) (S5/G5); *Baccharis salicifolia* Shrubland Alliance (Mulefat thickets) (S4/G4); *Isocoma menziesii* Shrubland Alliance (Menzies's golden bush scrub) (S3/G3); *Heteromeles arbutifolia* – *Artemisia californica* Association (Toyon – California sagebrush scrub or chaparral) (S4G5); *Rhus integrifolia* Shrubland Alliance (Lemonade berry scrub) (S3/G3). Portions of the southern end of the Project Site support historically or recently restored areas of coastal scrub and chaparral communities based on aerial imagery dating back to the early to mid-20<sup>th</sup> century, including at Drainage Area No. 4, the southernmost portion of the Former Marketing Terminal Area, the entrance to the Pier Parking Lot, Former Sandblast Area, and Pipeline Bluffs Crossing Area.

Dominant or co-dominant species in these areas include coyote brush (*Baccharis pilularis*), bush sunflower (*Encelia californica*), purple sage (*Salvia leucophylla*), toyon (*Heteromeles arbutifolia*), quailbush (*Atriplex lentiformis*), California sagebrush (*Artemisia californica*), Menzies's golden bush (*Isocoma menziesii*), blue elderberry (*Sambucus nigra ssp. caerulea*) and lemonadeberry (*Rhus integrifolia*).

Notably, in the Pipeline Bluffs Crossing Area are monotypic and mixed stands of quailbush scrub, mixed stands of coyote brush scrub and Menzies's golden bush scrub, all of which have undergone some level of disturbance, including recolonization subsequent to former row crops extending to the bluff edge and the former presence of a refuse dump. In Drainage Area No. 4 are a planted mulefat thicket, toyon chaparral, and naturally colonized California sagebrush scrub. The southern portion of the Former Marketing Terminal Area supports a mature thicket of blue elderberry, lemonadeberry and California sagebrush. These shrub-dominated vegetation types provide cover, roosting and nesting habitat for a number of bird, reptile and small mammal species.

**Iceplant Mat** MCV Online: *Mesembryanthemum spp.* - *Carpobrotus spp.* Herbaceous Semi-Natural Alliance (Ice plant mats) (No State/Global Rarity Rank). The Pipeline Bluffs Crossing Area supports a large mat of non-native iceplant (*Carpobrotus edulis* and *Mesembryanthemum sp.*), which, where present, has frequently become a naturalized and typically dominant component of bluff scrub communities.

**Annual Grasslands and Ruderal Vegetation MCV Online: *Brassica nigra* – *Centaurea (solstitialis, melitensis)* Herbaceous Semi- Natural Alliance (Upland mustards or star-thistle fields) (No State/Global Rarity Rank); *Avena spp.* – *Bromus spp.* Herbaceous Semi-Natural Alliance (Wild oats and annual brome grasslands) (No State/Global Rarity Rank).** The Main Plant Area, Shop and Maintenance Area, and Chevron Pipeline Area, which are all formerly graded, bermed, or degraded asphalt, supports patches of predominantly non-native herbaceous species such as summer mustard (*Hirschfeldia incana*), red brome (*Bromus madritensis ssp. rubens*), ripgut brome (*Bromus diandrus*), red-stem filaree (*Erodium cicutarium*), onionweed (*Asphodelus fistulosus*), bristly ox-tongue (*Helminthotheca echioides*), cheeseweed (*Malva parviflora*), perennial ryegrass, freeway iceplant, Terracina spurge (*Euphorbia terracina*), smilo grass (*Stipa mileacea*), bur-clover (*Medicago polymorpha*) and English plantain (*Plantago lanceolata*). Native species were also observed throughout these areas, but in lesser concentration, including horseweed (*Erigeron canadensis*), telegraph weed (*Heterotheca grandiflora*), coyote brush, and small-flowered evening primrose (*Camissoniopsis micrantha*).

The Former Nursery Area supports an assemblage of weedy non-native species typical of repeated disturbance. Dominant species originally observed in 2004 included cheeseweed, wild radish (*Raphanus sativus*) and summer mustard. The Former Nursery Area was hydroseeded with a native herbaceous seed mix following removal of pesticide-affected soils in 2012 but has since become mostly recolonized with its former non-native dominants, in addition to the emergence of succulent lupine (*Lupinus succulentus*) and California poppy (*Eschscholzia californica*) included in the seed mix. Similar conditions supporting non-native annual grasses and other herbaceous cover (e.g., English plantain and Terracina spurge, but little or no native species) are present in the Former Marketing Terminal Area immediately south of its developed portion.

**Arroyo Willow Thicket MCV Online: *Salix lasiolepis* Shrubland Alliance (Arroyo willow thickets) (S4G4).** The Project Site supports three (3) small patches of arroyo willow thicket with arroyo willow (*Salix lasiolepis*) as the dominant tree species in the overstory. Understory vegetation typically includes western ragweed (*Ambrosia psilostachya*), tall flatsedge (*Cyperus eragrostis*, in wetter years), bristly ox-tongue (*Picris echioides*), and/or curly dock (*Rumex crispus*) or is bare of understory vegetation due to a thick, closed canopy. Wetland plant species found within this vegetation type during the Wetland Delineation (separate report) include English plantain (*Plantago lanceolata*), western sycamore, arroyo willow and mulefat (*Baccharis salicifolia*).

This vegetation type provides cover, roosting and nesting habitat for a number of bird, reptile and small mammal species, including at least one (1) big-eared woodrat nest at the Former Sandblast Area.

### **2.3.3 Environmentally Sensitive Habitat Areas (ESHA)**

Sections 30230, 30231, and 30233 of the Coastal Act of 1976 require protection of marine resources and estuaries. The City's General Plan/Local Coastal Land Use Plan identifies the following areas within or adjacent to the Project site as ESHA:

- Monarch butterfly roost at the Project site
- Buffer Zone
- Harbor seal rookery near the Casitas Pier
- Onshore areas seaward of the Union Pacific Railroad tracks (Carpinteria Bluffs)
- Intertidal and nearshore areas (including rocky reefs and kelp beds) near the Project site, extending up to about 3,000 feet offshore

Policies OSC-1a through OSC-1d of the City's General Plan/Local Coastal Land Use Plan provide protection for ESHA within the City (also see Section 2.2).

### **2.3.4 Site Flora**

A botanical inventory was prepared in May 2011 in support of soil remediation activities conducted within the Buffer Zone, Drainage Area No. 4, Former Nursery Area, Former Sandblast Area, and Railroad Ditch Area. A botanical survey of the entire Project site was conducted in April 2021 to update the inventory and include all potential impact areas. A total of 163 vascular plant species were observed, including 51 (31 percent) native species and 112 (69 percent) non-native or introduced species. Of the 112 non-native species identified, 54 are considered invasive by the California Invasive Plant Council, including five species rated as highly invasive, 27 species rated as moderately invasive, and 22 species rated as limited invasiveness.

### **2.3.5 Special-Status Plant Species**

Several special-status plant species have been identified in the project area by a literature search conducted by Padre and review of the California Department of Fish and Wildlife Natural Diversity Data Base (CNDDB, 2021) for the Carpinteria, Santa Barbara, White Ledge Peak, and Pitas Point 7.5-minute USGS quadrangle maps. Table 4 below describes these plants, their habitat associations, listing status, and nearest known location. Special-status plant species observed or reported at the Project Site include southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*, a CNPS rare plant rank 4 species) and yerba mansa (*Anemopsis californica*, a regionally rare species within Santa Barbara County). Monterey cypress (*Hesperocyparis macrocarpa*, a CNPS rare plant rank 1.2 species where naturally occurring) is also present in multiple locations at the Project Site, but these individuals are planted or are seedling and sapling recruits, and are not considered rare or endangered due to their introduced origin. Figure 3 provides the approximate location of special-status plant species as reported by the California Natural Diversity Data Base.



**Table 4. Special-Status Plant Species of the Carpinteria Area**

Common Name (Scientific Name)	Habitat Associations	Status	Nearest Known Location
Coulter's saltbush ( <i>Atriplex coulteri</i> )	Coastal bluff scrub, coastal dunes, coastal scrub, ocean bluffs, ridgetops, as well as alkaline areas	CRPR 1B.2	Carpinteria, along ocean bluff (CNDDDB, 2021);
Nuttall's scrub oak ( <i>Quercus dumosa</i> )	Closed-cone coniferous forest, chaparral, coastal scrub.	CRPR 1B.1	Toro and Santa Monica Canyons, northwest of Carpinteria (CNDDDB, 2021);
Late-flowered Mariposa lily ( <i>Calochortus weedii</i> var <i>vestus</i> )	Chaparral, dry, open coastal woodland.	CRPR 1B.2	Franklin Canyon, north of Carpinteria (CNDDDB, 2021);
Sonoran maiden fern ( <i>Thelypteris puberula</i> var <i>sonorensis</i> )	Meadows and seeps, along streams	CRPR 2.2	Romero Canyon, Santa Ynez Mountains (CNDDDB, 2021);
Southern tarplant ( <i>Centromadia parryi</i> ssp <i>australis</i> )	Marshes and swamps, valley and foothill grassland, often in disturbed sites near the coast.	CRPR 1B.1	Alongside rail lines, Pitas Point Quad (CNDDDB, 2021);
Cliff malacothrix ( <i>Malacothrix saxatilis</i> ssp. <i>saxatilis</i> )	Coastal bluff scrub, coastal scrub	CRPR 4	Carpinteria Bluffs (Padre, 2004)
Woolly sea-blite ( <i>Suaeda taxifolia</i> )	Margins of salt marshes	CRPR 4	Carpinteria Bluffs (Padre, 2004), Berms in the Carpinteria Salt Marsh (SBCFCWCD, 2003);
Southern California black walnut ( <i>Juglans californica</i> )	Chaparral, cismontane woodland, coastal scrub/alluvial	CRPR 4	Carpinteria Creek (Padre, 2005)
Salt marsh bird's beak ( <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> )	High marsh habitats with sandy substrate	FE, SE, CRPR 1B.2	Carpinteria Salt Marsh (Padre, 2020a);
Coulter's goldfields ( <i>Lasthenia glabrata</i> )	Margins of salt pans	CRPR 1B.1	Carpinteria Salt Marsh Nature Park (SBCFCWCD, 2003);
Estuary sea-blite ( <i>Suaeda esteroa</i> )	Coastal salt marshes	CRPR 1B.2	Presumed extirpated from Carpinteria Salt Marsh (SBCFCWCD, 2003).
Red sand verbena ( <i>Abronia maritima</i> )	Sand dune habitats	CRPR 4	Re-established in sand dunes at Carpinteria Salt Marsh Nature Park (Padre, 2004)
Southwestern spiny rush ( <i>Juncus acutus</i> ssp. <i>leopoldii</i> )	Fringes or transition habitats in salt or brackish marshes	CRPR 4	Onsite: Pipeline Bluffs Crossing Area (Padre, 2021)
Yerba mansa ( <i>Anemopsis californica</i> )	Transition habitats along edges of marshes	Regionally Rare	Onsite: Pipeline Bluffs Crossing Area (Padre, 2021)
Watson's saltbush ( <i>Atriplex watsonii</i> )	Transition habitats along edges of marshes	Regionally Rare	Carpinteria Salt Marsh (SBCFCWCD, 2003);
Alkali barley ( <i>Hordeum depressum</i> )	Salt marsh transition and grassland habitats	Regionally Rare	Carpinteria Salt Marsh (SBCFCWCD, 2003);

**Table 4. (Continued)**

<b>Common Name (Scientific Name)</b>	<b>Habitat Associations</b>	<b>Status</b>	<b>Nearest Known Location</b>
Prostrate hutchinsia ( <i>Hutchinsia procumbens</i> )	High salt marsh habitats	Regionally Rare	Carpinteria Salt Marsh (SBCFCWCD, 2003);
Basket rush ( <i>Juncus textilis</i> )	Brackish marsh habitats	Regionally Rare	Drainage ditches along Sand Point Road, and successfully established at Carpinteria Salt Marsh Nature Park (SBCFCWCD, 2003);
Seaside arrowgrass ( <i>Triglochin coccinea</i> )	High salt marsh habitats	Regionally Rare	Carpinteria Salt Marsh (SBCFCWCD, 2003);
Ventura marsh milk-vetch ( <i>Astragalus pycnostachys</i> <i>var. lanosissimus</i> )	Coastal salt marshes, rarely near seeps on sandy bluffs	FE, SE, CRPR 1B.1	Introduced to the Carpinteria Salt Marsh (Meyer, 2012)
Davidson's saltscale ( <i>Atriplex serenana</i> <i>var.</i> <i>dauidsonii</i> )	Coastal bluff, coastal scrub	CRPR 1B.2	Hendry's Beach (aka, Arroyo Burro Beach) (CNDDDB, 2021)
Santa Barbara morning glory ( <i>Calystegia sepium</i> <i>ssp.</i> <i>binghamiae</i> )	Coastal marsh	CRPR 1A	Burton Mound, Santa Barbara. Possibly extirpated (CNDDDB, 2021)
Umbrella larkspur ( <i>Delphinium umbraculorum</i> )	Cismontane woodland, mesic sites, 400 to 1600 m (1,300 to 5,300 ft) elevation	CRPR 1B.3	Escondido Canyon, Los Padres National Forest (CNDDDB, 2021)
Ojai fritillary ( <i>Fritillaria ojaiensis</i> )	Broadleaf forest, chaparral, lower montane coniferous forest	CRPR 1B.2	Santa Ynez Mountains, west of Ojai (CNDDDB, 2021)
Mesa horkelia ( <i>Horkelia cuneata</i> <i>ssp.</i> <i>puberula</i> )	Chaparral, cismontane woodland, coastal scrub, 70 to 810 m (230 to 2,700 ft)	CRPR 1B.1	Cold Spring Trail, near Santa Barbara (CNDDDB, 2021)
Santa Barbara honeysuckle ( <i>Lonicera subspicata</i> <i>var.</i> <i>subspicata</i> )	Chaparral, cismontane woodland, coastal scrub, 35 to 1,000 m (110 to 3,300 ft)	CRPR 1B.2	San Roque Canyon, Los Padres National Forest (CNDDDB, 2021)
Gambel's water cress ( <i>Nasturtium gambelii</i> )	Freshwater and brackish marshes at the edges or lakes or streams	FE, ST, CRPR 1B.1	Historically mapped in vicinity of Santa Barbara, but extirpated (CNDDDB, 2021)
Peninsular nolina ( <i>Nolina cismontane</i> )	Chaparral and coastal scrub, 140 to 1,275 m (460 to 4,200 ft)	CRPR 1B.2	Coyote Creek in vicinity of Lake Casitas (CNDDDB, 2021)
Southern jewel-flower ( <i>Streptanthus campestris</i> )	Chaparral, lower montane coniferous forest, pinyon- juniper forest	CRPR 1B.3	Divide Peak, Santa Ynez Mountains (CNDDDB, 2021)
Santa Ynez false lupine ( <i>Thermopsis macrophylla</i> )	Chaparral	CRPR 1B.3	Camino Cielo Road & La Cumbre Lookout Road, Santa Ynez Mountains (CNDDDB, 2021)

**Table 4. (Continued)**

Common Name (Scientific Name)	Habitat Associations	Status	Nearest Known Location
Monterey cypress ( <i>Hesperocyparis macrocarpa</i> )	Headlands and sheltered areas near the coast	CRPR 1B.2	Onsite (planted), but outside of its natural geographic range.

Status codes: CNPS Rare Plant Rank (CRPR) 1A Presumed extinct in California  
 CRPR 1B Plants rare, threatened or endangered in California  
 CRPR 2 Plants rare, threatened or endangered in California, more common elsewhere  
 CRPR 4 Plants of limited distribution  
 .1 - Seriously endangered in California.  
 .2 – Fairly endangered in California.  
 .3 – Not very endangered in California.  
 FE Federal Endangered  
 SE State Endangered  
 ST State Threatened  
 Regionally Rare: According to the Santa Barbara Botanic Garden

### 2.3.6 Wildlife

A list of wildlife species observed at the Project Site is provided in Attachment B. A majority of these wildlife sightings occurred in the Buffer Zone, with much lower biodiversity observed in the more developed portions of the Project Site.

**Amphibians and Reptiles.** Baja California tree frogs were observed in the drainage within the Buffer Zone in May 1998 (Padre, 2002a), were heard calling from the Project Site during the November 2004 field survey, and again in February 2012. Western toad was also observed in the Buffer Zone in 2012. Both species are expected to currently occur at the Project Site, particularly in lesser developed areas.

Western fence lizard and side-blotched lizard were commonly observed throughout the Project Site, typically using gopher and ground squirrel buffers as refugia. Other reptiles less commonly observed within the Buffer Zone included gopher snake, alligator lizard, and ringneck snake as recently as winter 2021. California king snake may also be expected to occur at the Project Site.

**Birds.** Tree clusters at the Project Site are known to be areas of high avian diversity. Grasslands in the Project Site are used for foraging and hunting by several species as well. Birds observed during numerous surveys from 1998 to 2021 by Padre collectively included a total of 58 species. Bird activity primarily occurs in the trees or areas of scrubby vegetation. Birds commonly observed included (in order of decreasing abundance) yellow-rumped warbler, bushtit, Anna's hummingbird, mourning dove, northern flicker, black phoebe, Hutton's vireo, northern mockingbird, American crow, and red-tailed hawk. Evidence of roosting by great horned owl was observed within the Buffer Zone in 1998 (ADL, 1999), owl pellets were found onsite in 2012, and a great horned owl fledgling was observed in the Buffer Zone in 2019 (Padre pers. obs., 2019). Cooper's hawk and red-shouldered hawk have also been commonly

observed roosting and foraging in the Buffer Zone, but no nests have been recorded at the Project Site.

Observations of nesting activity by passerines have included Anna's hummingbird, California towhee, cliff swallow, and house finch, some of which were on manufactured structures or equipment, or in trees near those items. Hawks are commonly observed roosting in large trees within the Buffer Zone and adjacent portions of the Former Nursery Area. At least three (3) raptor nests of varying sizes (one of which was active as recently as 2021) were observed at the Project Site in various years. A pair of mating red-tailed hawks was observed in the eucalyptus treetop above the MSRC Lease Area in April 2021.

Other species known from the area (e.g., Carpinteria Bluffs) include white-tailed kite, sharp-shinned hawk, barn owl, turkey vulture, and loggerhead shrike, which may forage at the Project Site.

**Mammals.** Ground squirrel and pocket gopher burrows were commonly observed throughout the Project Site. Raccoon, coyote, and domestic dog tracks have been observed within the Buffer Zone during numerous field surveys. An individual coyote was also directly observed in November 2020 within the Buffer Zone. Red fox has been commonly observed in the Buffer Zone and Chevron Pipeline Area in numerous years. Domestic cat is also frequently observed in the Buffer Zone, returning to homes along Arbol Verde Drive. A single, big-eared woodrat nest is present in the arroyo willow thicket at the bluff's edge within the Former Sandblast Area. Other mammals expected to occur at the Project Site include black rat, deer mouse, and house mouse.

**Invertebrates.** Monarch butterfly (*Danaus plexippus*) is the only insect species in the world that is known to exhibit long-distance, seasonal migrations. These butterflies maintain a summer range across North America. Milkweeds (*Asclepias* spp.) serve as their main source of food, and are where females lay their eggs. Every fall, the Monarch butterflies fly west and south to over-wintering sites in coastal California and central Mexico.

Groves of eucalyptus and Monterey pine serve as the predominant Monarch butterfly over-wintering sites in California. Other trees including coast live oak, sycamore, and Monterey cypress also serve as over-wintering habitat. A protective microclimate is typically provided by densely clustered trees and understory vegetation (i.e., shrubs, grasses) at over-wintering roost sites selected by Monarch butterflies. These sites typically provide a degree of protection from wind and storms, and exhibit more stable temperature, wind velocity, humidity, and sunlight intensity compared to adjacent areas. Monarch butterflies are known to move around selected groves of trees depending on variations in the microclimatic conditions.

The same over-wintering sites, and even the same trees, are often used year after year by Monarch butterflies. However, wide variations in the use of over-wintering sites do occur. Some sites may be used only periodically, while others are used every or almost every year. The number of Monarch butterflies using a given roost site can fluctuate dramatically on a day-to-day and year-to-year basis. Also, the duration for which a particular site is used can vary. Autumnal roost sites are used only temporarily in the fall by relatively small numbers of

butterflies, while permanent roost sites are used for the entire winter by up to tens of thousands of individuals. Autumnal sites are typically abandoned for permanent roost sites in the beginning of the winter. Both types of roost sites are important to Monarch butterflies. However, permanent roost sites are more important, as they sustain the butterfly populations by providing food and protection from the weather through the winter. It is important to note that a given roosting site may serve as an autumnal site one year, and a permanent site in another, and vice versa.

Monarch butterflies are regularly observed at the Project Site during the fall. They also occur in the winter, but may be a result of dispersion from the large Carpinteria Creek overwintering site. A cluster of approximately 50 Monarch butterflies were observed in the blue gum windrow on the east side of Dump Road on October 25, 1990. Many Monarch butterflies were observed flying over the Project Site, but no clusters were found on January 6, 1991 (Calvert, 1991). Clusters of Monarchs totaling over 2,000 individuals were observed in the Buffer Zone on November 8, 1998 (ADL, 1999). Approximately 60 Monarchs were observed in the Buffer Zone in February 1999 (Meade, 1999). Padre biologists observed two clusters totaling about 100 Monarchs on a blue gum tree in the Buffer Zone, with another 30 to 50 flying within the Buffer Zone on November 15, 2004. At that time, this site was considered an autumnal roost, possibly a congregation site associated with the overwintering site at Carpinteria Creek.

In fall 2011, Monarch butterflies were observed patrolling the Buffer Zone and began aggregating in October 2011. By January 2012 Monarch butterflies were observed aggregating in at least two trees (blue gum and pine) in excess of approximately 5,000 individuals (by visual estimation). Observations were made of the aggregations moving north (further into the Buffer Zone from its more exposed, southern end) before beginning their dispersal (and potential mating activity) in February 2012 (Padre, 2012). Conversely, in winter 2020/2021, observations were limited to very few patrolling Monarchs and no aggregations at the Buffer Zone or other locations within the Project Site (Padre, 2020 and Padre, 2021a), which may be consistent with a long-term decline in the population abundance at North American overwintering sites.

These observations are generally consistent with the Xerces Society Western Monarch Thanksgiving Count at Site 2800 (Oil & Gas Buffer Zone, Carpinteria, Xerces Society, 2020), which observed as many as 5,990 Monarchs in 2016, and steadily declined to observe only three (3) Monarchs in 2020. This decline has led to the petition of the U.S. Fish and Wildlife Service (USFWS) to list the monarch butterfly for protection under the Endangered Species Act of 1973, as amended, but although warranted for listing, is currently precluded by higher priority listing actions (USFWS, 2020a).

In support of the petition, the U.S. Fish and Wildlife Service (USFWS) conducted a species status assessment (SSA), which analyzed numerous expert predictions of increases or decreases in impacts to western monarchs over the next 20 years (USFWS, 2020b). The SSA determined that predictions of *non-habitat-mediated* climate change effects range from a 6% decrease in impacts due to increases in temperatures potentially improving reproduction, or conversely, to a 50% increase in impacts due to more severe increases in temperatures and

precipitation events hindering reproduction and increasing mortality. The SSA also determined that predictions of *habitat-mediated* climate change effects range from an 8% decrease in impacts due to the potential for small increases in milkweed availability in some portions of the range, or conversely to a 65% increase in impacts due to greater losses of monarch habitat from increased temperatures and drought (USFWS, 2020b). From a local perspective, these effects are not markedly apparent due to the mild, coastally influenced weather of the region, and relatively intact condition of vegetation within the Buffer Zone in recent documented history. Thus, the disappearance of aggregating Monarchs at the Buffer Zone may potentially be caused by the effects described above at other sections of their migratory route.

### 2.3.7 Special-Status Wildlife

Special-status wildlife species listed by CDFW and/or USFWS have the potential to occur in the vicinity of the Project Site. Query or review of the CNDDDB (2021) for the Carpinteria, Santa Barbara, White Ledge Peak, and Pitas Point 7.5-minute USGS quadrangle maps, documentation of past onsite biological survey and monitoring activities, sight records from other environmental documents, and range maps including Zeiner et al. (1988, 1990a, 1990b) and Lehman (2019) were used to determine the potential presence of these species. Table 5 lists special-status wildlife species that are known to occur or have the potential to occur at the Project Site. Figure 3 provides the approximate location of special-status wildlife species as reported by the California Natural Diversity Data Base.

**Table 5. Special-Status Wildlife Species of the Carpinteria/Montecito Area**

Common Name (Scientific Name)	Status	Nearest Known Location
Monarch butterfly ( <i>Danaus plexippus</i> )	SA, PD	On-site (fall and late winter). Buffer Zone supports a historical aggregation site, with as many as 5,990 individuals observed in 2016, but only 3 individuals observed in 2020 (Xerces Society, 2020)
Sandy Beach tiger beetle ( <i>Cicindela hirticollis grvida</i> )	SA	Carpinteria area (historic, now extirpated, CNDDDB, 2021)
Tidewater goby ( <i>Eucyclogobius newberryi</i> )	FE, SSC	Carpinteria Creek, 0.2 miles to the west (Padre, 2016)
Southern steelhead ( <i>Oncorhynchus mykiss</i> )	FE, SSC	Carpinteria Creek below State Route 192, 0.2 miles to the northwest (Stoecker et al., 2002)
California newt ( <i>Taricha torosa</i> )	SSC	Santa Monica Creek, 2.7 miles to the north-northwest (Z. Abbey, personal observation, 2020)
California red-legged frog ( <i>Rana draytonii</i> )	FT, SSC	Santa Monica Creek, 2.7 miles to the north-northwest (Z. Abbey, personal observation, 2020)
Southwestern pond turtle ( <i>Actinemys pallida</i> )	SSC	Lower Carpinteria Creek, 0.2 miles to the west (Padre, 2016)
Two-striped garter snake ( <i>Thamnophis hammondi</i> )	SSC	Carpinteria Creek, 0.3 miles to the north (Padre, 2016)
Coast horned lizard ( <i>Phrynosoma coronatum</i> ssp. <i>frontale</i> )	SSC	Known from the region

**Table 5. (Continued)**

Common Name (Scientific Name)	Status	Nearest Known Location
Light-footed clapper rail ( <i>Rallus longirostris levipes</i> )	FE, SE	Carpinteria Salt Marsh (historic, now extirpated)
Belding's savanna sparrow ( <i>Passerculus sandwichensis beldingi</i> )	SE	Carpinteria Salt Marsh, 1.2 miles to the northwest (Padre, 2020a)
American peregrine falcon ( <i>Falco peregrinus anatum</i> )	FP (nesting)	Uncommon fall/winter visitor in the region, (Lehman, 2019), reported from the Carpinteria Salt Marsh
Western snowy plover ( <i>Charadrius alexandrinus</i> )	FT, SSC	Winters on the beaches in the Carpinteria area (Lehman, 2019). Observed at Carpinteria State Beach in 2021 (eBird.org). Nearest breeding site is near the Santa Clara River mouth, approximately 17.7 miles to the southeast.
California brown pelican ( <i>Pelecanus occidentalis californicus</i> )	SA, D	Carpinteria Salt Marsh (SBCFCWCD, 2003). Observed overhead (Padre, 2020)
California least tern ( <i>Sterna antillarum browni</i> )	FE, SE	Transient, post-breeding visitor in the region (Lehman, 2019), nearest breeding at McGrath State Beach.
Northern harrier ( <i>Circus cyaneus</i> )	SSC	Uncommon transient and winter visitor in the region, (Lehman, 2019), reported from the Carpinteria Salt Marsh
American bittern ( <i>Botaurus lentiginosus</i> )	SA	Rare to very rare transient and winter visitor in the region (Lehman, 2019) observed at the Carpinteria Salt Marsh (SBCFCWCD, 2003)
Long-billed curlew ( <i>Numenius americanus</i> )	WL	Uncommon fall migrant in the region, (Lehman, 2019), Observed at harbor seal haul-out near the Project site in 2021 (eBird.org).
Osprey ( <i>Pandion haliaetus</i> )	WL	Rare fall/winter transient in the region (Lehman, 2019), Observed from Tar Pits Park in 2021 (eBird.org).
Merlin ( <i>Falco columbarius</i> )	WL	Very uncommon winter visitor in the region, (Lehman, 2019), reported from the Carpinteria Salt Marsh
Yellow warbler ( <i>Dendroica petechia</i> )	SSC (nesting)	Toro Canyon (SAIC, 2000), and Carpinteria Creek (Padre, 2002b); On-site (foraging only in Buffer Zone; Padre, 2012)
Yellow-breasted chat ( <i>Icteria virens</i> )	SSC (nesting)	Toro Canyon (SAIC, 2000)
White-tailed kite ( <i>Elanus caeruleus</i> )	FP (nesting)	Carpinteria Bluffs (Padre, 2004; eBird, 2021); Carpinteria Salt Marsh (SBCFCWCD, 2003)
Loggerhead shrike ( <i>Lanius ludovicianus</i> )	SSC (nesting)	Rare and irregular breeder in the Project area (Lehman, 2019). Observed at Carpinteria Bluffs in 2021 (eBird.org).
Cooper's hawk ( <i>Accipiter cooperi</i> )	WL (nesting)	Carpinteria Creek (Padre, 2002b); On-site (foraging only in Buffer Zone, Padre obs. 2021)
Arroyo toad ( <i>Anaxyrus californicus</i> )	FE, SSC	Santa Ynez River above Gibraltar Reservoir (CNDDB, 2021)
Globose dune beetle ( <i>Coelus globosus</i> )	SA	Carpinteria sand dunes (historic [1934], likely extirpated)
San Diego desert woodrat ( <i>Neotoma lepida intermedia</i> )	SSC	North side of SPRR-ROW & US 101, Pitas Point (CNDDB, 2021)

**Table 5. (Continued)**

Common Name (Scientific Name)	Status	Nearest Known Location
Townsend's big-eared bat ( <i>Corynorhinus townsendi</i> )	SSC, WBWG-H	Carpinteria Salt Marsh (historic, 1941) (CNDDDB, 2021)
Yuma myotis ( <i>Myotis yumanensis</i> )	WBWG-LM	Night roost under the Carpinteria Avenue bridge, 0.2 miles to the north (Padre, 2016)
Big free-tailed bat ( <i>Nyctinomops macrotis</i> )	SSC	Santa Barbara (CNDDDB, 2021)
Foothill yellow-legged frog ( <i>Rana boylei</i> )	SE	Santa Ynez River at Juncal Campground (CNDDDB, 2021)
Bank swallow ( <i>Riparia riparia</i> )	ST	Hendry's Beach (aka Arroyo Burro Beach), Santa Barbara (CNDDDB, 2021)
Least Bell's vireo ( <i>Vireo bellii pusillus</i> )	FE, SE	Santa Ynez River at Juncal Campground (CNDDDB, 2021)
Northern California legless lizard ( <i>Anniella pulchra</i> )	SSC	Carpinteria State Beach (CNDDDB, 2021)

Status codes:

FSC	Federal Species of Concern	FE	Federal Endangered
FT	Federal Threatened	SSC	California Species of Special Concern
SA	Special Animal (CDFW)	SE	State Endangered
PD	Petition for ESA listing deferred (USFWS)	ST	State Threatened
D	Delisted from the ESA (USFWS)	WL	Watch List (CDFW)
FP	Fully Protected (CDFW)	WBWG-H	Western Bat Working Group, high concern
		WBWG-LM	Western Bat Working Group, low-medium concern

**Monarch Butterfly.** See discussion under Wildlife.

**Sandy Beach Tiger Beetle.** This species is recorded in the CNDDDB as having been identified in back-dune areas near Carpinteria greater than 20 years ago and is considered extirpated from the area. Suitable back-dune habitats are absent within the Project Site, and based on lack of more recent records, sandy beach tiger beetle is not expected to occur at the Project Site.

**Globose Dune Beetle.** This species was reported from dunes in the Carpinteria area in 1934. Although recorded in the CNDDDB as presumed extant, it likely to have become extirpated as development has occurred and beach use has substantially increased since then. At the Project Site, the bluff cliff directly meets the beach face, and does not support suitable sandy beach dune habitat; therefore, globose dune beetle is not expected to occur at the Project Site.

**Southern Steelhead.** This species is an anadromous form of rainbow trout, meaning it reproduces in freshwater, but spends much of its life cycle in the ocean, where greater feeding opportunities provide a greater growth rate and size. Steelhead has been divided into 15 evolutionary significant units (ESU) based on similarity in life history, location and genetic markers. Southern steelhead are likely to have greater physiological tolerances to warmer water and more variable conditions in comparison to populations in other ESUs. The southern



California ESU includes 16 populations from the Santa Ynez River in the north to San Mateo Creek in the south. Carpinteria Creek supports a steelhead population, with juveniles seen every year since the 1980's, primarily above the confluence with Gobernador Creek (National Marine Fisheries, 2003). A 28-inch adult female was caught illegally near the Creek mouth on February 27, 2000. Dual-frequency identification sonar (DIDSON) counts have been initiated by CDFW in Carpinteria Creek in 2014, but data are not yet available (National Marine Fisheries Service, 2016). Due to the lack of habitat and barriers between the Project Site and the ocean, this species does not occur at the Project Site.

**Tidewater Goby.** This species was found in lower Carpinteria Creek in 1995, and in 2009 during the construction of the 8<sup>th</sup> Street pedestrian bridge (Padre, 2016). However, tidewater gobies have not been collected in the Carpinteria Salt Marsh since 1923, apparently because brackish-water habitats are no longer sustained in the estuary. Due to the lack of habitat and barriers between the site and the ocean, tidewater goby does not occur on the Project Site.

**California Newt.** This species was observed in upper Carpinteria Creek (Padre, 2002b), upper Rincon Creek (Padre, 2001), and upper Santa Monica Creek (Padre pers. obs., 2020). California newt occurs in foothill areas with intact riparian habitat and pools for breeding, which do not occur at the Project Site. Therefore, California newt is considered absent from the Project Site.

**California Red-legged Frog.** This species is known to occur in permanent and temporary freshwater bodies, but also to travel extensive distances over upland areas. It has been reported in upper Santa Monica Creek, two miles north of Carpinteria Salt Marsh (Padre, 2003, Padre pers. obs., 2020). This species was not found in Romero Creek following completion of protocol surveys (Padre, 2001). Due to lack of suitable habitat, California red-legged frog is not expected to occur within close proximity to the Project Site.

**Foothill Yellow-legged Frog.** This species typically occupies perennial streams or rivers of woodlands, chaparral, or forest. It has historically been reported in the Santa Ynez River watershed at the southern end of its range. This species is now apparently extinct from the southern border of Monterey County throughout southern California based on the lack of records since 1970-1971, despite intensive search (Stebbins, 2003). Due to lack of suitable habitat and recent sight records in southern California, foothill yellow-legged frog is not expected to occur at the Project Site.

**Arroyo Toad.** This species is known to occupy sandy riverbanks, washes and arroyos including within the upper Santa Ynez River and Santa Clara River watersheds. Riverbed, arroyo or other suitable riparian habitat is absent from the Project Site, and arroyo toad is not expected to occur at the Project Site.

**Southwestern Pond Turtle.** This species is an aquatic turtle inhabiting streams, marshes, ponds, and irrigation ditches within woodland, grassland, and open forest communities, but requires upland sites for nesting and over-wintering. Stream habitat must contain large, deep pool areas or more shallow pools provided some plant or debris cover is

available. This species has been reported in Cold Springs Creek (Tierney and Storrer, 1990), upper Rincon Creek (Padre, 2001), upper Santa Monica Creek (Padre pers. obs., 2020), and lower Carpinteria Creek (Padre, 2016). Due to lack of suitable habitat, southwestern pond turtle is not expected to occur within close proximity to the Project Site.

**Two-striped Garter Snake.** This species is an aquatic snake found in or near permanent fresh water, often along streams with rocky beds and riparian growth. Two-striped garter snake has been found in many streams along the Santa Barbara County coast, including San Ysidro and Montecito Creeks (Tierney and Storrer, 1990), and recently in upper Santa Monica Creek (Padre pers. obs., 2020) and upper Carpinteria Creek (Padre, 2016). Due to lack of suitable habitat, two-striped garter snake is not expected to occur within close proximity to the Project Site.

**Coast Horned Lizard.** This species is known from the region and could occur in sandy patches in openings of scrub habitats, such as what is found at the Carpinteria Bluffs. Therefore, there may be a low potential for coast horned lizard to occur in the southern portions of the Project Site.

**Northern California Legless Lizard.** This species has multiple historical records in the CNDDB in the Carpinteria area, occupying moist, loose soil beneath sand dune vegetation and the duff layer of oak woodlands. Therefore, there may be a low to moderate potential for legless lizard to occur in the lesser disturbed portions of the Project Site (i.e., the Buffer Zone and low-lying areas of vegetated bluffs).

**Ringneck Snake.** This species has been observed on the Project Site in the Buffer Zone. The San Bernardino subspecies has been designated by the U.S. Forest Service as a sensitive species. However, no other Federal, State or local agency or organization considers this species as needing protection. Therefore, the San Bernardino ringneck snake may not meet the definition of rare or endangered under Section 15380 of the State CEQA Guidelines. According to the subspecific designations and geographic distributions developed in 1942 (including six subspecies in California), the Project Site is located in an intergradation area between the San Bernardino ringneck snake and the Monterey ringneck snake. More recent research (Fontanella et al., 2021) indicates this species should be separated into only three subspecies in California, with the project area included within the western California subspecies, which does not include the formerly designated geographic distribution of the San Bernardino ringneck snake. Therefore, ringneck snakes found on the Project Site do not have any special-status.

**Light-footed Clapper Rail.** The Final EIR prepared in 2003 for the Carpinteria Salt Marsh Enhancement Plan considered light-footed Ridgway's (Clapper) Rail (*Rallus obsoletus levipes*) as present in the Marsh, at least in Basins 2 and 3, based on incidental observations in 1995 and 1999. Yearly census for light-footed Ridgway's rail have been performed at sites throughout southern California since 1980. This species has not been observed at Carpinteria Salt Marsh since 2002 (Zembal et al., 2016). Therefore, this species is now considered extirpated from the Marsh. Due to lack of suitable habitat, light-footed clapper rail is not expected to occur within close proximity to the Project Site.

**Belding's Savanna Sparrow.** This species is an obligate saltmarsh resident and occurs within the Carpinteria Salt Marsh. Due to lack of suitable habitat, Belding's savanna sparrow is not expected to occur within close proximity to the Project Site.

**American Peregrine Falcon.** This species was removed from the Federal and State endangered species lists due to apparent population increases but remains on the State list as Fully Protected. Peregrine falcons nest on ledges or "potholes" in cliffs, usually near water. In the project area, peregrine falcons may be found foraging along the Santa Barbara coastline, including Carpinteria Salt Marsh, but only on an infrequent basis (SBCFCWCD, 2003). This species may have a low potential to occur within close proximity to the Project Site, and likely be limited to foraging.

**Western Snowy Plover.** This species inhabits sandy beaches, especially in areas with low foredunes that are not inundated at high tide. Western snowy plovers are an occasional winter visitor to areas in the vicinity of the Carpinteria Salt Marsh and have been observed on the beach below Carpinteria Bluffs. Carpinteria Beach was formerly designated as Critical Habitat by the U.S. Fish and Wildlife Service for wintering snowy plovers but has since been removed in 2012. Snowy plovers may be expected to forage, but not nest on the beach below the bluff portions of the Project Site.

**California Brown Pelican.** This species does not nest in mainland Santa Barbara County. Most nesting takes place in Baja California, but some occurs on the Channel Islands (primarily Anacapa Island). Areas favored for congregating generally have freshwater for bathing (such as river mouths), quiet places for resting and preening, and often are adjacent to ocean waters with good fish populations. Although aerial observations of brown pelican are common along the Project Site's coastline, due to lack of suitable habitat, this species is not expected to occur directly within the Project Site.

**California Least Tern.** This species is found breeding in colonies on beaches, sandbars or other flat exposed areas. It has been observed foraging at the Carpinteria Salt Marsh in the vicinity of the estuary mouth (SBCFCWCD, 2003). Ocean waters adjacent to the Project Site may be visited by California least terns. Due to lack of suitable habitat, this species is not expected to occur at the Project Site.

**Northern Harrier.** Northern harriers inhabit marshes and meadows where they feed on small mammals. This species is not known to breed along the Santa Barbara south coast but is expected at Carpinteria Salt Marsh as a transient and winter visitor (SBCFCWCD, 2003). Thus, northern harriers may forage in the general vicinity of the Project Site.

**Merlin.** This medium-sized falcon is a winter visitor to Santa Barbara County, especially the Carpinteria Salt Marsh, where it has been observed perching on low vegetation or foraging for prey. Thus, merlins may potentially forage in the general vicinity of the Project Site.

**Yellow Warbler.** This species nests in riparian woodlands and has been reported as nesting within the upper reaches of Romero Creek, Montecito Creek, Toro Canyon and San Ysidro Creek (Tierney and Storrer, 1990). This species has been observed foraging in the

Buffer Zone (Padre, 2012), but due to lack of suitable habitat, this species is not expected to nest at the Project Site.

**Yellow-breasted Chat.** This species prefers riparian woodlands for use as nesting habitat and has been observed in the past in several of the larger streams along the South Coast. It has been observed nesting in Toro Canyon and is considered rare as a breeder in the project area (Tierney and Storrer, 1990). Due to lack of suitable habitat, this species is not expected to occur within close proximity to the Project Site.

**Least Bell's Vireo.** This species is known to occur in extensive thickets of willow or other riparian vegetation, including within the Santa Ynez River watershed (CNDDDB, 2021). However, due to the absence of riparian forest and lack of breeding records in the region, least Bell's vireo is not likely to occur at or near the Project Site.

**White-Tailed Kite.** White-tailed kite breeding sites are uncommon in southern Santa Barbara County, but this species regularly forages along the coast during fall and winter, especially in grasslands in the vicinity of nocturnal communal roost sites in willow groves, oaks, avocado and citrus orchards, and eucalyptus (Lehman, 2019). White-tailed kite forages in grasslands along the Carpinteria Bluffs and within the Carpinteria Salt Marsh. Thus, white-tailed kites may forage in the vicinity of the Project Site.

**Loggerhead Shrike.** This species frequents grassland and open shrubland and has been observed at the Carpinteria Bluffs. Loggerhead shrike may forage at the Project Site.

**Cooper's Hawk.** This species is a very uncommon, local breeder in foothill riparian habitats in Santa Barbara County (Lehman, 2019). Cooper's hawk may be seen regularly in spring and summer in the Carpinteria area, suggesting that nesting may occur in Santa Monica Canyon to the north of the project area. This species was observed foraging at the Project Site in April 2021 and may be expected to forage and to a lesser degree, potentially nest at the Project Site.

**American Bittern.** This species is a very uncommon, local transient and winter visitor along the southern Santa Barbara County coastline (Lehman, 2019). This species prefers fresh- and salt-water marshes, and has been observed at the Carpinteria Salt Marsh. Due to lack of suitable habitat, this species is not expected to occur within close proximity to the Project Site.

**Long-billed Curlew.** This species is an uncommon visitor to southern Santa Barbara County, but occurs regularly at Carpinteria Salt Marsh (Lehman, 2019). This species is found in a variety of habitats including sandy beaches, sloughs, river mouths, pastureland, agricultural fields, and dry grassland. Due to lack of suitable habitat, this species is not expected to occur within close proximity to the Project Site.

**Osprey.** This species is primarily a fall transient to the southern Santa Barbara County coastline (Lehman, 2019). Ospreys are observed at lakes, ponds, sloughs, river mouths, and over nearshore ocean waters. Thus, osprey may occur within the Carpinteria Salt Marsh and

forage within ocean waters adjacent to the Project Site. Due to lack of suitable habitat, this species is not expected to occur at the Project Site.

**Bank Swallow.** This species nests in large colonies, excavating nest burrows in steep riverbank cliffs, gravel pits, and highway cuts (National Geographic Society, 1987). It has been observed at Hendry's Beach (also known as Arroyo Burro Beach) in Santa Barbara (CNDDDB, 2021). Suitable habitat does not occur within the Project Site and this species is not expected to occur at the Project Site.

**San Diego Desert Woodrat.** This species typically occurs in rocky terrain intermixed with chaparral or prickly pear cactus (*Opuntia* sp.) where it occupies elaborate dens built from sticks, twigs, cacti, dung, or other plant materials and man-made debris. Suitable habitat for San Diego desert woodrat is absent from the Project Site, and this species is not expected to occur at the Project Site.

**Big Free-tailed Bat.** This species prefers rugged, rocky canyons and cliffs, roosts in crevices and cracks in high canyon walls (and to a lesser degree in buildings), and is known to forage over water sources. Big free-tailed bat has been observed in the Santa Barbara area; however, the CDFW Wildlife Habitat Relationships System indicates that this species mainly occurs in New Mexico, southern Arizona and Texas, and probably does not breed in California (CWHR Program Staff, 2002). Due to the absence of suitable bat roosting habitat and lack of sight records in the region, big free-tailed bat is not expected to occur at the Project Site.

**Townsend's Big-eared Bat.** This species is primarily a cave dweller but may roost in mine tunnels and abandoned buildings with cave-like attics (Pierson et al., 2002). There are a few historic museum records of Townsend's big-eared bat in the Santa Barbara area. Buildings on-site are not abandoned and do not provide attic-like habitat. Due to the absence of suitable roosting habitat, this species is not expected to occur at the Project Site.

**Yuma Myotis.** This species is predominately a crevice dweller, commonly associated with man-made structures including bridges and barns, and may also roost in caves, mines and swallow nests (Pierson et al., 2002). Yuma myotis uses the underside of the Carpinteria Avenue bridge as a night roost (Padre, 2016), and has been observed by Padre biologists in expansion joints and other crevices in numerous bridges in the region. Due to the absence of suitable crevice roosting habitat, this species is not expected to occur at the Project Site.

**Migratory Birds.** A list of migratory birds protected under the Migratory Bird Treaty Act of 1918 is contained in 50 CFR 10.13, and includes five raptor species known from the project area (great horned owl, red-tailed hawk, red-shouldered hawk, Cooper's hawk, and American kestrel), other potential bird species listed above, and a majority of the bird species listed in Attachment B. The focus of the Act was the:

"Establishment of a Federal prohibition, unless permitted by regulations, to pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or

cause to be carried by any means whatever, received for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention for the protection of migratory birds, or any part, nest or egg of any such bird" (16 USC 703).

These species are also protected under Section 3503 and 3503.5 of the California Fish and Game Code which state, respectively: "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto", and "It is unlawful to take, possess, or destroy any birds of the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by the Code or any regulation adopted pursuant thereto." Migratory birds are common in the area and are known or expected to breed at the Project Site.

### 3.0 REFERENCES

- Arthur D. Little (ADL). 1999. Environmental Assessment, Chevron Carpinteria Interim Source Removal Remedial Action Plan.
- California Department of Fish and Wildlife. 2021. California Natural Diversity Data Base (RAREFIND5), Carpinteria, Santa Barbara, White Ledge, and Pitas Point 7.5' quadrangles.
- California Department of Transportation. 2012. Natural Environment Study South Coast 101 High Occupancy Vehicle (HOV) Project (05-0N7000). January.
- California Herps. 2021. San Bernardino Ring-necked Snake - *Diadophis punctatus modestus* <http://www.californiaherps.com/snakes/pages/d.p.modestus.html>.
- City of Carpinteria. 2003. General Plan/Local Coastal Land Use Plan & Environmental Impact Report. State Clearinghouse Number 1997121111. April
- City of Carpinteria. 2016. Land Use Map. As described in Local Coastal Plan Amendments.
- City of Carpinteria. 2020. General Plan 2019 Annual Progress Report. Accepted by City Council, May 11.
- Condor Environmental Planning Services. 1996. Carpinteria Bluffs Biological Resources and Environmentally Sensitive Habitat, prepared for City of Carpinteria Community Development Department.
- Cowardin, L. M., Carter, W., Golet, F.C., and La Roe, E.T. 1979. Classification of Wetland and Deepwater Habitats of the United States. USFWS Report FWS/OBS-79/31.
- Dahl, T. E. 1990. Wetland losses in the United States 1780's to 1980's. U. S. Fish and Wildlife Service, Washington, DC, USA.
- eBird. 2021. Bird Sightings for Santa Barbara, California, U.S. <https://ebird.org/region/US-CA-083?yr=all>.
- Fontanella, F.M., Miles, E., and Strott, P. 2021. Integrated analysis of the ringneck snake *Diadophis punctatus* complex (Colubridae: Dipsadidae) in a biodiversity hotspot provides the foundation for conservation reassessment. Department of Biology, University of West Georgia, Carrollton, GA. Published in The Linnean Society of London, Biological Journal of the Linnean Society, 2021, XX, 1-15.
- Lehman, P.E. 1994 (updated 2019). The Birds of Santa Barbara County, California. Vertebrate Museum, University of California, Santa Barbara, California.
- Meade, D.E. 1999. Monarch Butterfly Overwintering Sites in Santa Barbara County California.

- Meyer, M. 2012. Ten Years After: Assessment of Experimental Outplantings of the Endangered Ventura Marsh Milkvetch (*Astragalus pycnostachyus* var. *lanosissimus*).
- National Marine Fisheries Service. 2003. Southern California Steelhead ESU Current Stream Habitat Distribution Table. [swr.ucsd.edu/hcd/soCalDistrib.htm](http://swr.ucsd.edu/hcd/soCalDistrib.htm).
- National Marine Fisheries Service. 2016. South-Central/Southern California Coast Steelhead Recovery Planning Domain 5-Year Review: Summary and Evaluation of Southern California Coast Steelhead Distinct Population Segment.
- Padre Associates, Inc. 2001. Biological Evaluation/Biological Assessment for the Thompson Rincon Creek, Surface Water Diversion Special Use Permit, Los Padre National Forest. Prepared for Chuck Thompson.
- Padre Associates, Inc. 2002a. Draft Environmental Impact Report for the Carpinteria Oil and Gas Plant Area General Plan and Local Coastal Plan Amendment. Prepared for the City of Carpinteria.
- Padre Associates, Inc. 2002b. Carpinteria Creeks Preservation Program. Prepared for the City of Carpinteria.
- Padre Associates, Inc. 2003. Final Environmental Impact Report for the Carpinteria Valley Water District's Water Storage Tank and Rancho Monte Alegre Annexation, prepared for the Carpinteria Valley Water District.
- Padre Associates, Inc. 2004a. Final Environmental Impact Report for the South Coast Beach Communities Septic to Sewer Project. Prepared for the Carpinteria Sanitary District.
- Padre Associates, Inc. 2004b. Biological Impact Study Carpinteria Gas Plant Pesticide Remediation. Prepared for Chevron Environmental Management Company. December.
- Padre Associates, Inc. 2009. 2009 Wetland Delineation East-West Earthen Channel in the Buffer Zone Area West of the Former Chevron Carpinteria Marketing Terminal. Prepared for County of Santa Barbara Planning and Development. June.
- Padre Associates, Inc. 2010. Addendum to the Biological Impact Study (December 2004) for the Carpinteria Gas Plant Pesticide Remediation. Prepared for County of Santa Barbara Planning and Development, Energy Division. August.
- Padre Associates, Inc. 2011. Botanical Survey Report for the Carpinteria Source Removal Project (Project 04-1167-DP/CDP). Prepared for Chevron Environmental Management Company. May.



- Padre Associates, Inc. 2012. Project Completion Report for Biological Survey, Monitoring and Restoration Oversight for Carpinteria Oil and Gas Processing Facility Soil Remediation/Restoration Project (Final Report, No. 10), CDFG Notification No. 1600-2011-0088-R5. Prepared for Chevron Environmental Management Company. February.
- Padre Associates, Inc. 2015. Year 3 Monitoring Report for On-site Mitigation for the Carpinteria Oil and Gas Processing Facility Soil Remediation/Restoration Project, 04-1167-DP/CDP. Prepared for Chevron Environmental Management Company. September.
- Padre Associates, Inc. 2016. Final Environmental Impact Report for the Carpinteria Avenue Bridge (51C-172) Replacement Project. Prepared for the City of Carpinteria.
- Padre Associates, Inc. 2020. Chevron Biological Survey and Habitat Impact Review Form. 14 December.
- Padre Associates, Inc. 2021a. Chevron Biological Survey and Habitat Impact Review Form. 2 February.
- Pierson E., P. Collins, W. Rainey, P. Heady and C. Corben. 2002. Final Report on the Distribution, Status and Habitat Associations of Bat Species on Vandenberg Air Force Base, Santa Barbara County, California.
- Santa Barbara Botanic Garden. 2012. Rare Plants of Santa Barbara County. Prepared by Central Coast Center for Plant Conservation, Santa Barbara. November 1.
- Santa Barbara County Flood Control and Water Conservation District (SBCFCWCD). 2003. Carpinteria Salt Marsh Enhancement Plan Draft Environmental Impact Report.
- Sawyer, J. O., et al. 2022. A Manual of California Vegetation, Online Edition. California Native Plant Society Press, Sacramento, California.
- Science Applications International Corporation (SAIC). 1998. Wetland Delineation Report Buffer Parcel West of Former Chevron Carpinteria Marketing Terminal. Prepared for Arthur D. Little.
- Science Applications International Corporation (SAIC). 2000. Toro Canyon Plan Final Environmental Impact Report. Prepared for the County of Santa Barbara Planning and Development Department.
- Stoecker, M.W. 2002. Steelhead Assessment and Recovery Opportunities in Southern Santa Barbara County, California. [www.conceptioncoast.org](http://www.conceptioncoast.org).
- Tierney, R. and J. Storrer. 1990. Montecito Planning Area Biological Resources Study, prepared for County of Santa Barbara Comprehensive Planning Department.

- U.S. Army Corps of Engineers. 2018. National Wetland Plant List (Arid West Region), version 3.4. <http://wetland-plants.usace.army.mil/>. Engineer Research and Development Center. Cold Regions Research and Engineering Laboratory, Hanover, NH.
- U.S. Fish and Wildlife Service. 2020a. Monarch Butterfly. <https://www.fws.gov/savethemonarch/>
- U.S. Fish and Wildlife Services. 2020b. Monarch (*Danaus plexippus*) Species Status Assessment Report, version 2.1. September.
- Westree (October 13, 2004). Letter Report to Donna Hebert of Padre Associates, Inc. regarding Tree Survey Addendum – Soil Remediation at Venoco, Inc. Carpinteria Gas Facility.
- Westree (December 6, 2004). Letter Report to Donna Hebert of Padre Associates, Inc. regarding Tree Survey – Soil Remediation at Venoco, Inc. Carpinteria Gas Facility.
- Xerces Society. 2020. Western Monarch Thanksgiving Count 1997-2020. [www.westernmonarchcount.org](http://www.westernmonarchcount.org).
- Zeiner, David C., William F. Laudenslayer, Jr. and Kenneth E. Mayer. 1988. California Department of Fish and Game, California's Wildlife, Volume I, Amphibians and Reptiles.
- Zeiner, David C., William F. Laudenslayer, Jr., Kenneth E. Mayer, and Marshall White. 1990a. California Department of Fish and Game, California's Wildlife, Volume II, Birds.
- Zeiner, David C., William F. Laudenslayer, Jr., Kenneth E. Mayer, and Marshall White. 1990b. California Department of Fish and Game, California's Wildlife, Volume III, Mammals.
- Zemba, R., S. Hoffman, C. Gailband and J. Konecny. 2016. Light-footed Ridgway's (Clapper) Rail Management, Study and Zoological Breeding in California, 2016 Season. California Department of Fish and Wildlife Nongame Wildlife Program Report No. 2016-04.

## FIGURES





#### LEGEND:

- Operational Area
- Project Site

#### MAP EXTENT:







**LEGEND:**

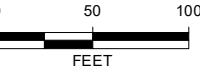
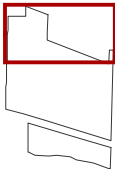
- Operational Area
- Vegetation Types**
- AG - Annual grassland or mustards

- CB - Coyote brush scrub
- CS - California sagebrush scrub
- CYP - Monterey cypress trees

- DEV - Developed (pavement, gravel, structures)
- EUC - Eucalyptus groves or windrows
- OAK - Coast live oak woodland

ORN - Ornamental trees

**MAP EXTENT:**



Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.



PROJECT NAME: CHEVRON CARPINTERIA OIL AND GAS PROCESSING FACILITY PROPERTIES SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 2002-5211	DATE: December 2022

**VEGETATION MAP**


FIGURE  
2A


Z:\GIS Projects\GIS Maps\Map Project\Carpinteria Oil & Gas Facility\Terrestrial Biological Resources Study\Vegetation Map 2022.mxd 12/14/2022





**LEGEND:**

 Operational Area

 **Vegetation Types**

AG - Annual grassland or mustards

AG/DIST - Disturbed annual grassland or mustards

CS - California sagebrush scrub

DEV - Developed (pavement, gravel, structures)

EUC - Eucalyptus groves or windrows

EUC/TAM - Eucalyptus and Tamarisk thickets or windrows

MF - Mulefat thicket

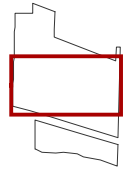
OAK - Coast live oak woodland

ORN - Ornamental trees

TOY - Toyon Chaparral

WIL - Arroyo willow thickets

**MAP EXTENT:**



050100

FEET

Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.

**padre**  
associates, inc.  
ENGINEERS, GEOLOGISTS &  
ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CHEVRON CARPINTERIA  
OIL AND GAS PROCESSING FACILITY PROPERTIES  
SANTA BARBARA COUNTY, CA

PROJECT NUMBER:  
2002-5211

DATE:  
December 2022

VEGETATION MAP

FIGURE  
2B

C-35





**LEGEND:**

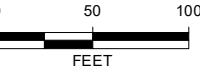
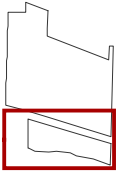
- Operational Area
- Vegetation Types**
- AG - Annual grassland or mustards
- BARE - Bare ground

- CB - Coyote brush scrub
- CS - California sagebrush scrub
- CYP - Monterey cypress trees
- DEV - Developed (pavement, gravel, structures)

- EUC - Eucalyptus groves or windrows
- GB - Golden bush scrub
- IP - Iceplant mats
- LB - Lemonade berry scrub

- SB - Saltbush (Quailbush) scrub
- WIL - Arroyo willow thickets

**MAP EXTENT:**



Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.



PROJECT NAME: CHEVRON CARPINTERIA OIL AND GAS PROCESSING FACILITY PROPERTIES SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 2002-5211	DATE: December 2022

**VEGETATION MAP**

FIGURE  
2C



## **ATTACHMENT A PROJECT SITE PLANT LIST**



**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITIES - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot
<b>CUPRESSACEAE (Cypress Family)</b>												
Monterey cypress	<i>Hesperocyparis macrocarpa</i>	T	NL	I		X	X	X		X	X	X
Dawn redwood	<i>Metasequoia glyptostroboides</i>	T	NL	I						X		
<b>PINACEAE (Pine Family)</b>												
Aleppo pine	<i>Pinus halepensis</i>	T	NL	I			X				X	
Monterey pine	<i>Pinus radiata</i>	T	NL	I				X	X	X		
<b>TAXODIACEAE (Bald Cypress Family)</b>												
Redwood	<i>Sequoia sempervirens</i>	T	NL	I			X					
<b>ARAUCARIACEAE (Araucaria Family)</b>												
Norfolk island pine	<i>Araucaria excelsa</i>	T	NL	I					X			
<b>ADOXACEAE (Muskroot Family)</b>												
Blue elderberry	<i>Sambucus nigra ssp. caerulea</i>	T	FACU	N				X	X			X
<b>AIZOACEAE (Fig-Marigold Family)</b>												
Crystalline iceplant	<i>Mesembryanthemum crystallinum</i>	H	FACU	I	Moderate						X	
Baby sun rose	<i>Mesembryanthemum cordifolium</i>	V	NL	I			X					
Freeway iceplant	<i>Carpobrotus edulis</i>	S	NL	I	High					X	X	X
<b>ANACARDIACEAE (Sumac or Cashew Family)</b>												
Laurel sumac	<i>Malosma laurina</i>	S	NL	N		X						
Lemonade berry	<i>Rhus integrifolia</i>	S	NL	N		X		X	X		X	X
Brazilian pepper tree	<i>Schinus terebinthifolius</i>	T	NL	I	Moderate		X	X				
<b>APIACEAE (Carrot Family)</b>												
Poison hemlock	<i>Conium maculatum</i>	H	FACW	I	Moderate	X		X				
Fennel	<i>Foeniculum vulgare</i>	H	NL	I	Moderate	X						X
<b>APOCYNACEAE (Dogbane Family)</b>												
Oleander	<i>Nerium oleander</i>	S	NL	I			X	X				
<b>ARALIACEAE (Ginseng Family)</b>												
English ivy	<i>Hedera helix</i>	V	NL	I	High		X	X				
<b>ASPARAGACEAE (Asparagus Family)</b>												
Century plant	<i>Agave americana</i>	S	UPL	I						X		
Dracaena	<i>Dracaena sp.</i>	S	NL	I						X		
<b>ASPHODELACEAE (Asphodel Family)</b>												
Aloe	<i>Aloe sp.</i>	S	NL	I						X		
Onionweed	<i>Asphodelus fistulosus</i>	H	NL	I	Moderate	X				X		X
<b>ASTERACEAE (Sunflower Family)</b>												
Western ragweed	<i>Ambrosia psilostachya</i>	H	FACU	N		X		X	X	X	X	X
California sagebrush	<i>Artemisia californica</i>	H	NL	N		X			X		X	X
Mugwort	<i>Artemisia douglasiana</i>	H	FAC	N		X		X			X	
Coyote brush	<i>Baccharis pilularis</i>	S	NL	N		X		X	X	X	X	X
Mule fat	<i>Baccharis salicifolia</i>	S	FAC	N				X			X	
Italian thistle	<i>Carduus pycnocephalus</i>	H	NL	I	Moderate		X	X				
Tocalote	<i>Centaurea melitensis</i>	H	NL	I	Moderate	X						X
Bull thistle	<i>Cirsium vulgare</i>	H	FACU	I	Moderate							X
Brass buttons	<i>Cotula coronopifolia</i>	H	OBL	I	Limited					X		
Artichoke	<i>Cynara scolymus</i>	H	NL	I				X				
German Ivy	<i>Delairea odorata</i>	V	NI	I	High	X		X				
California bush sunflower	<i>Encelia californica</i>	S	NL	N		X				X	X	X
Horseweed	<i>Erigeron canadensis</i>	H	FACU	N						X		
Crown daisy	<i>Glebionis coronaria</i>	H	NL	I	Moderate					X		
Bristly ox-tongue	<i>Helminthotheca echioides</i>	H	FAC	I	Limited		X	X	X	X		
Telegraph weed	<i>Heterotheca grandiflora</i>	H	NL	N						X		X
Rough cat's-ear	<i>Hypochaeris radicata</i>	H	NL	I	Moderate			X	X			X
Coastal golden-bush	<i>Isocoma menziesii</i>	S	NL	N		X				X		X

**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITIES - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot
Prickly lettuce	<i>Lactuca serriola</i>	H	FACU	I		X		X		X		
Narrowleaf cottonrose	<i>Logfia gallica</i>	H	NL	I						X		
Green everlasting	<i>Pseudognaphalium californicum</i>	H	NL	N		X				X		
Cudweed	<i>Pseudognaphalium canescens ssp. microcephalum</i>	H	FACU	N		X				X		
Cotton-batting plant	<i>Pseudognaphalium stramineum</i>	H	FAC	N						X		
Milk thistle	<i>Silybum marianum</i>	H	NL	I	Limited					X		
Prickly sow thistle	<i>Sonchus asper</i>	H	FAC	I		X						
Common sow thistle	<i>Sonchus oleraceus</i>	H	UPL	I			X	X		X		X
<b>BIGNONIACEAE (Bignonia Family)</b>												
Trumpet creeper	<i>Campsis radicans</i>	V	NL	I				X				
Cape honeysuckle	<i>Tecoma capensis</i>	S	NL	I				X	X			
<b>BORAGINACEAE (Borage Family)</b>												
Large-flowered popcorn flower	<i>Cryptantha intermedia</i>	H	NL	N						X		
Pride of Madeira	<i>Echium candicans</i>	S	NL	I	Limited			X		X		
Branching phacelia	<i>Phacelia ramosissima</i>	H	FACU	N						X	X	X
<b>BRASSICACEAE (Mustard Family)</b>												
Shepherd's purse	<i>Capsella bursa-pastoris</i>	H	FACU	I						X		
Summer mustard	<i>Hirschfeldia incana</i>	H	NL	I	Moderate	X	X	X	X	X	X	X
Wild radish	<i>Raphanus sativus</i>	H	NL	I	Limited		X	X	X	X		
London rocket	<i>Sisymbrium irio</i>	H	NL	I	Limited					X		
<b>CACTACEAE (Cactus Family)</b>												
Mission prickly-pear	<i>Opuntia ficus-indica</i>	S	NL	I						X		
<b>CARYOPHYLLACEAE (Pink Family)</b>												
Sand-spurrey	<i>Spergularia bocconi</i>	H	FACW	I						X		
Four-leaved all-seed	<i>Polycarpon tetraphyllum</i>	H	NL	I			X					
<b>CHENOPODIACEAE (Goosefoot Family)</b>												
Big saltbush, quailbush	<i>Atriplex lentiformis</i>	S	FAC	N		X			X		X	X
Five-hook bassia	<i>Bassia hyssopifolia</i>	S	FACU	I	Limited		X		X	X		
Pitseed goosefoot	<i>Chenopodium berlandieri</i>	H	NL	N						X		
Nettle leaf goosefoot	<i>Chenopodium murale</i>	H	FACU	I						X		
Russian thistle	<i>Salsola tragus</i>	H	FACU	I	Limited				X	X		
<b>CONVOLVULACEAE (Morning-Glory Family)</b>												
Chaparral morning-glory	<i>Calystegia macrostegia ssp. intermedia</i>	V	NL	N		X	X	X				X
Bindweed	<i>Convolvulus arvensis</i>	H	NL	I			X			X		
<b>CRASSULACEAE (Stonecrop Family)</b>												
Pygmy weed	<i>Crassula connata</i>	H	FAC	N						X		
Jade plant	<i>Crassula ovata</i>	H	NL	I						X		
<b>EUPHORBIACEAE (Spurge Family)</b>												
Spotted spurge	<i>Chamaesyce maculata</i>	H	FACU	I			X			X		
Caper spurge	<i>Euphorbia lathyris</i>	H	NL	I			X					
Petty spurge	<i>Euphorbia peplus</i>	H	NL	I			X	X		X		
Carnation spurge	<i>Euphorbia terracina</i>	H	NL	N	Limited				X	X	X	
Castor bean	<i>Ricinus communis</i>	H	FACU	I	Limited		X	X	X		X	X
<b>FABACEAE (Legume Family)</b>												
Sydney golden wattle	<i>Acacia longifolia</i>	T	NL	I	Watch				X	X		
Strigose lotus	<i>Acmispon strigosus</i>	H	NL	N						X		
Miniature lupine	<i>Lupinus bicolor</i>	H	NL	N						X		
Succulent lupine	<i>Lupinus succulentus</i>	H	NL	N					X			
Collared annual lupine	<i>Lupinus truncatus</i>	H	NL	N						X		
California bur-clover	<i>Medicago polymorpha</i>	H	NL	I	Limited			X		X		
Yellow sweet clover	<i>Melilotus indicus</i>	H	FACU	I		X			X	X		X
Spring vetch	<i>Vicia sativa</i>	H	FACU	I				X	X		X	

**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITIES - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot
<b>FAGACEAE (Oak Family)</b>												
Coast live oak	<i>Quercus agrifolia</i>	T	NL	N		X	X	X	X	X		X
Scrub oak	<i>Quercus berberidifolia</i>	T	NL	N								X
<b>GERANIACEAE (Geranium Family)</b>												
Red-stemmed filaree	<i>Erodium cicutarium</i>	H	NL	I	Limited	X	X		X	X	X	
White-stemmed filaree	<i>Erodium moschatum</i>	H	NL	I						X		
Cut-leaf geranium	<i>Geranium dissectum</i>	H	NL	I	Limited			X		X		
Geranium	<i>Pelargonium sp.</i>	H	NL	I				X				
<b>GROSSULARIACEAE (Gooseberry Family)</b>												
Fuschia-flowered gooseberry	<i>Ribes speciosum</i>	S	NL	N					X			
<b>LAMIACEAE (Mint Family)</b>												
Horehound	<i>Marrubium vulgare</i>	H	FACU	I	Limited	X				X		
Rosemary	<i>Rosmarinus officianalis</i>	S	NL	I			X					
Black sage	<i>Salvia mellifera</i>	S	NL	N					X		X	
Purple sage	<i>Salvia leucophylla</i>	S	NL	N		X		X			X	X
<b>LAURACEAE (Laurel Family)</b>												
Avocado	<i>Persea americana</i>	T	NL	I						X		
<b>MAGNOLIACEAE (Magnolia Family)</b>												
Southern magnolia	<i>Magnolia grandiflora</i>	T	NL	I						X		
<b>MALVACEAE (Mallow Family)</b>												
Bull mallow	<i>Malva nicaeensis</i>	H	NL	I			X	X	X	X		
Cheeseweed	<i>Malva parviflora</i>	H	NL	I				X	X	X	X	
<b>MYOPORACEAE (Myoporum Family)</b>												
Myoporum	<i>Myoporum laetum</i>	T	NL	I	Moderate			X	X	X		
<b>MYRTACEAE (Myrtle Family)</b>												
Blue gum	<i>Eucalyptus globulus</i>	T	NL	I	Moderate			X	X	X	X	
Scarlet gum	<i>Eucalyptus ficifolia</i>	T	NL	I				X				
<b>NYCTAGINACEAE (Four O'Clock Family)</b>												
Bougainvillea	<i>Bougainvillea spectabilis</i>	S	NL	I				X	X	X		
<b>OLEACEAE (Olive Family)</b>												
Oregon ash	<i>Fraxinus latifolia</i>	T	FACW	I				X		X		
Olive	<i>Olea europaea</i>	T	NL	I	Limited			X				
<b>ONAGRACEAE (Evening Primrose Family)</b>												
Small evening primrose	<i>Camissoniopsis micrantha</i>	H	NL	N						X		X
<b>OXALIDACEAE (Oxalis Family)</b>												
Creeping wood sorrel	<i>Oxalis corniculata</i>	H	FACU	I		X	X					X
Bermuda buttercup	<i>Oxalis pes-capre</i>	H	NL	I	Moderate		X	X	X	X	X	X
<b>PAPAVERACEAE (Poppy Family)</b>												
California poppy	<i>Eschscholzia californica</i>	H	NL	N					X	X		
<b>PITTOSPORACEAE (Pittosporum Family)</b>												
Victorian box	<i>Pittosporum undulatum</i>	T	NL	I			X	X		X		
<b>PLANTAGINACEAE (Plantain Family)</b>												
English plantain	<i>Plantago lanceolata</i>	H	FAC	I	Limited	X		X	X	X	X	
Common plantain	<i>Plantago major</i>	H	FAC	I				X				
<b>PLATANACEAE (Sycamore Family)</b>												
Western sycamore	<i>Plantanus racemosa</i>	T	FAC	N		X		X		X	X	X
<b>POLYGONACEAE (Buckwheat Family)</b>												
California buckwheat	<i>Eriogonum fasciculatum</i>	S	NL	N								X
Seacliff buckwheat	<i>Eriogonum parvifolium</i>	S	NL	N							X	X
Common knotweed	<i>Polygonum aviculare ssp. depressum</i>	H	FAC	I				X				
Curly dock	<i>Rumex crispus</i>	H	FAC	I	Limited		X	X	X	X	X	
<b>MYRSINACEAE (Myrsine Family)</b>												
Scarlet pimpernel	<i>Anagallis arvensis</i>	H	FAC	I		X	X			X		X

**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITIES - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot
<b>RANUNCULACEAE (Buttercup Family)</b>												
Virgin's bower	<i>Clematis ligusticifolia</i>	V	FAC	N			X			X		
<b>ROSACEAE (Rose Family)</b>												
California rose	<i>Rosa californica</i>	S	FAC	N							X	
California blackberry	<i>Rubus ursinus</i>	PV	FAC	N							X	
Cotoneaster	<i>Cotoneaster pannosa</i>	S	NL	I	Moderate			X		X		
Toyon	<i>Heteromeles arbutifolia</i>	S	NL	N				X	X		X	
Peach	<i>Prunus persica</i>	S	NL	I			X	X		X		
Firethorn	<i>Pyracantha koidzumii</i>	S	NL	I				X				
Blackberry	<i>Rubus pensilvanicus</i>	V	NL	I			X	X				
<b>RUBIACEAE (Madder Family)</b>												
Common bedstraw	<i>Galium aparine</i>	H	FACU	N						X		
<b>SALICACEAE (Willow Family)</b>												
Arroyo willow	<i>Salix lasiolepis</i>	T	FACW	N		X	X	X		X		X
<b>SAURURACEAE (Lizards-tail Family)</b>												
Yerba mansa	<i>Anemopsis californica</i>	H	OBL	N							X	
<b>SOLANACEAE (Nightshade Family)</b>												
Tree tobacco	<i>Nicotiana glauca</i>	S	FAC	I	Moderate					X		X
Nightshade	<i>Solanum douglasii</i>	H	FAC	N			X	X				
Black nightshade	<i>Solanum nigrum</i>	H	FACU	I		X						
Purple nightshade	<i>Solanum xanti</i>	S	NL	N								X
<b>TAMARICACEAE (Tamarisk Family)</b>												
Athel tamarisk	<i>Tamarix aphylla</i>	T	FAC	I	Limited					X		
<b>TROPAEOLACEAE (Nasturtium Family)</b>												
Garden nasturtium	<i>Tropaeolum majus</i>	H	NL	I			X	X	X			
<b>ULMACEAE (Elm family)</b>												
Chinese elm	<i>Ulmus parvifolia</i>	T	UPL	I					X			
<b>URTICACEAE (Nettle Family)</b>												
Dwarf nettle	<i>Urtica urens</i>	H	NL	I						X		
<b>VERBENACEAE (Vervain Family)</b>												
Verbena	<i>Verbena lasiostachys</i> var. <i>scabrida</i>	H	FAC	N		X						X
<b>ARECACEAE (Palm Family)</b>												
Canary Island palm	<i>Phoenix canariensis</i>	T	NL	I	Limited			X				
Mexican fan palm	<i>Washingtonia robusta</i>	T	NL	I	Moderate				X			
<b>CYPERACEAE (Sedge Family)</b>												
Tall cyperus	<i>Cyperus eragrostis</i>	H	FACW	N			X	X		X		
California bulrush	<i>Scheuchzeria palustris</i>	H	OBL	N							X	
<b>JUNCACEAE (Rush Family)</b>												
Spiny rush	<i>Juncus acutus</i> ssp. <i>leopoldii</i>	H	FACW	N							X	
<b>POACEAE (Grass Family)</b>												
Slender wild oat	<i>Avena barbata</i>	G	NL	I	Moderate	X	X	X	X	X		
Wild oat	<i>Avena fatua</i>	G	NL	I	Moderate		X	X	X			
Brachypodium	<i>Brachypodium distachyon</i>	G	NL	I	Moderate	X						
Rescue grass	<i>Bromus catharticus</i>	G	NL	I			X	X				
Ripgut grass	<i>Bromus diandrus</i>	G	NL	I	Moderate	X	X	X	X		X	X
Soft cheat	<i>Bromus hordeaceus</i>	G	FACU	I	Limited			X		X	X	
Red brome	<i>Bromus madritensis</i> ssp. <i>rubens</i>	G	UPL	I	High	X				X		X
Pampas grass	<i>Cortaderia selloana</i>	G	FACU	I	High	X	X	X				X
Bermuda grass	<i>Cynodon dactylon</i>	G	FACU	I	Moderate				X			X
Giant wildrye	<i>Elymus condensatus</i>	G	FACU	N								X
Erect veldt grass	<i>Ehrharta erecta</i>	G	NL	I	Moderate		X					
Italian ryegrass	<i>Festuca perennis</i>	G	FAC	I	Moderate			X	X			
Farmer's foxtail	<i>Hordeum murinum</i> ssp. <i>leporinum</i>	G	NI	I	Moderate	X	X	X	X	X	X	

**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITIES - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot
Goldentop grass	<i>Lamarckia aurea</i>	G	FACU	I						X		
Dallis grass	<i>Paspalum dilatatum</i>	G	FAC	I				X				
Kikuyu grass	<i>Pennisetum clandestinum</i>	G	FACU	I	Limited		X	X				
Fountain grass	<i>Pennisetum setaceum</i>	G	NL	I	Moderate							X
Pennisetum	<i>Pennisetum villosum</i>	G	NL	I	Watch	X				X		X
Annual bluegrass	<i>Poa annua</i>	G	FAC	I			X					
Smilo grass	<i>Stipa mileacea</i>	G	NL	I	Limited			X	X	X		
Purple needlegrass	<i>Stipa pulchra</i>	G	NL	N		X						
Cultivated wheat	<i>Triticum aestivum</i>	G	NL	I					X			
Rattail fescue	<i>Festuca myuros</i>	G	FACU	I	Moderate	X					X	X

Native Status Notes

N: Native (to the region)

I: Introduced

Invasiveness Notes

Invasiveness Rating from California Invasive Plant Inventory (2020)

Wetland Notes

OBL: Obligate wetland species, occurs almost always in wetlands (>99% probability)

FACW: Facultative wetland species, usually found in wetlands (67-99% probability)

FAC: Facultative species, equally likely to occur in wetland and non-wetlands (34-66% probability)

FACU: Facultative upland species, not usually found in wetlands (1-33% probability)

UPL: Upland species, almost never found in wetlands (<1% probability)

NI: No indicator has been assigned due to a lack of information to determine indicator status

NL: Not listed, assumed upland species

## **ATTACHMENT B PROJECT SITE WILDLIFE LIST**

## ATTACHMENT B

### CARPINTERIA OIL AND GAS PROCESSING FACILITIES - WILDLIFE LIST

COMMON NAME	SCIENTIFIC NAME	STATUS
<b>AMPHIBIANS AND REPTILES</b>		
Baja California Tree Frog	<i>Pseudacris hypochondriaca hypochondriaca</i>	Native
Western Toad	<i>Anaxyrus boreas halophilus</i>	Native
San Diego Gopher Snake	<i>Pituophis catenifer annectens</i>	Native
Ringneck Snake	<i>Diadophis punctatus (western California clade)</i>	Native
Southern Alligator Lizard	<i>Elgaria multicarinata</i>	Native
Common Side-blotched Lizard	<i>Uta stansburiana</i>	Native
Western Fence Lizard	<i>Sceloporus occidentalis</i>	Native
<b>BIRDS</b>		
<b>Quails</b>		
California Quail	<i>Callipepla californica</i>	MBTA
<b>Pelicans &amp; Cormorants</b>		
Double-crested Cormorant (overhead)	<i>Phalacrocorax auritus</i>	WL, MBTA
California Brown Pelican (overhead)	<i>Pelecanus occidentalis californicus</i>	FP, D, MBTA
<b>Hérons &amp; Egrets</b>		
Great Blue Heron	<i>Ardea herodias</i>	MBTA
<b>Vultures</b>		
Turkey Vulture (overhead)	<i>Cathartes aura</i>	MBTA
<b>Hawks &amp; Eagles</b>		
Cooper's Hawk	<i>Accipiter cooperii</i>	WL, MBTA
Red-tailed Hawk	<i>Buteo jamaicensis</i>	MBTA
Red-shouldered Hawk	<i>Buteo lineatus</i>	MBTA
<b>Falcons</b>		
American Kestrel	<i>Falco sparverius</i>	MBTA
<b>Shorebirds &amp; Gulls</b>		
Unidentified Gull sp. (overhead)	<i>Larus</i> sp.	MBTA
<b>Pigeons &amp; Doves</b>		
Band-tailed Pigeon	<i>Patagioenas fasciata</i>	MBTA
Rock Pigeon	<i>Columba livea</i>	Introduced
Mourning Dove	<i>Zenaida macroura</i>	MBTA

## ATTACHMENT B

### CARPINTERIA OIL AND GAS PROCESSING FACILITIES - WILDLIFE LIST

COMMON NAME	SCIENTIFIC NAME	STATUS
Eurasian Collared Dove	<i>Streptopelia decaocto</i>	Introduced
<b>Owls</b>		
Great Horned Owl	<i>Bubo virginianus</i>	MBTA
<b>Swifts &amp; Hummingbirds</b>		
Anna's Hummingbird	<i>Calypte anna</i>	MBTA
Allen's Hummingbird	<i>Selasphorus sasin</i>	MBTA
<b>Woodpeckers</b>		
Acorn Woodpecker	<i>Melanerpes formicivorus</i>	MBTA
Downy Woodpecker	<i>Picoides pubescens</i>	MBTA
Northern Flicker	<i>Colaptes auratus</i>	MBTA
Nuttall's Woodpecker	<i>Picoides nuttallii</i>	MBTA
<b>Flycatchers</b>		
Black Phoebe	<i>Sayornis nigricans</i>	MBTA
Say's Phoebe	<i>Sayornis saya</i>	MBTA
Cassin's Kingbird	<i>Tyrannus vociferans</i>	MBTA
<b>Shrikes &amp; Vireos</b>		
Hutton's Vireo	<i>Vireo huttoni</i>	MBTA
<b>Jays, Crows &amp; Ravens</b>		
California Scrub Jay	<i>Aphelocoma californica</i>	MBTA
American Crow	<i>Corvus brachyrhynchos</i>	MBTA
Common Raven	<i>Corvus corax</i>	MBTA
<b>Swallows</b>		
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	MBTA
Cliff Swallow	<i>Hirundo pyrrhonota</i>	MBTA
<b>Titmouse &amp; Nuthatches</b>		
Oak Titmouse	<i>Parus inornatus</i>	MBTA
Bushtit	<i>Psaltiriparus minimus</i>	MBTA
White-breasted Nuthatch	<i>Sitta carolensis</i>	MBTA
<b>Wrens, Kinglets &amp; Gnatcatchers</b>		
House Wren	<i>Troglodytes aedon</i>	MBTA
Bewick's Wren	<i>Thryomanes bewickii</i>	MBTA
Ruby-crowned Kinglet	<i>Regulus calendula</i>	MBTA
Wrentit	<i>Chamaea fasciata</i>	MBTA



## ATTACHMENT B

### CARPINTERIA OIL AND GAS PROCESSING FACILITIES - WILDLIFE LIST

COMMON NAME	SCIENTIFIC NAME	STATUS
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>	MBTA
<b>Thrushes</b>		
Western Bluebird	<i>Sialia mexicana</i>	MBTA
Hermit Thrush	<i>Catharus guttatus</i>	MBTA
American Robin	<i>Turdus migratorius</i>	MBTA
<b>Thrashers</b>		
Northern Mockingbird	<i>Mimus polyglottos</i>	MBTA
<b>Starlings</b>		
European Starling	<i>Sturnus vulgaris</i>	Introduced
<b>Warblers</b>		
Yellow Warbler	<i>Setophaga petechia</i>	SSC (where nesting), MBTA
Yellow-rumped Warbler	<i>Setophaga coronata</i>	MBTA
Common Yellowthroat	<i>Geothlypis trichas</i>	MBTA
<b>Sparrows</b>		
Spotted Towhee	<i>Pipilo maculatus</i>	MBTA
California Towhee	<i>Melospiza crissalis</i>	MBTA
House Sparrow	<i>Passer domesticus</i>	Introduced
Song Sparrow	<i>Melospiza melodia</i>	MBTA
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	MBTA
<b>Tanagers, Grosbeaks &amp; Buntings</b>		
Western Tanager	<i>Piranga ludoviciana</i>	MBTA
<b>Blackbirds, Meadowlark &amp; Orioles</b>		
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	MBTA
Hooded Oriole	<i>Icterus cucullatus</i>	MBTA
<b>Finches</b>		
House Finch	<i>Haemorhous mexicanus</i>	MBTA
Lesser Goldfinch	<i>Spinus psaltria</i>	MBTA
Purple Finch	<i>Haemorhous purpureus</i>	MBTA
<b>MAMMALS</b>		
Audubon's Cottontail	<i>Sylvilagus audubonii</i>	Native
Big-eared Woodrat	<i>Neotoma macrotis</i>	Native
Botta's Pocket Gopher	<i>Thomomys bottae</i>	Native

## ATTACHMENT B

### CARPINTERIA OIL AND GAS PROCESSING FACILITIES - WILDLIFE LIST

COMMON NAME	SCIENTIFIC NAME	STATUS
California Ground Squirrel	<i>Otospermophilus beecheyi</i>	Native
Coyote	<i>Canis latrans</i>	Native
Domestic Dog	<i>Canis lupus familiaris</i>	Introduced
Domestic Cat	<i>Felis catus</i>	Introduced
Raccoon	<i>Procyon lotor</i>	Native
Red Fox	<i>Vulpes vulpes</i>	Introduced
Striped Skunk	<i>Mephitis mephitis</i>	Native
Virginia Opossum	<i>Didelphis virginiana</i>	Introduced
<b>INVERTEBRATES</b>		
Monarch Butterfly	<i>Danaus plexippus</i>	SA, PD

Notes: MBTA: Migratory Bird Treaty Act and Fish and Game Code 3503; 3503.5 Protection  
 WL: CDFW Watch List Species  
 FP: CDFW Fully Protected  
 SSC: California Species of Special Concern (for birds: where nesting)  
 SA: CDFW Special Animal  
 PD: Petition for Federal Endangered Species Act Listing Deferred (USFWS)  
 D: Delisted from the Federal Endangered Species Act (USFWS)

## **Appendix C-2**

### **Tree Report**

**TREE REPORT**

**DECOMMISSIONING AND REMEDIATION OF  
THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES  
CARPINTERIA, SANTA BARBARA COUNTY, CALIFORNIA**

**Project No. 2002-5211**

**Prepared for:**

Chevron Environmental Management Company  
276 Tank Farm Road  
San Luis Obispo, CA 93401

**Prepared by:**

Padre Associates, Inc.  
369 Pacific Street  
San Luis Obispo, California 93401

**DECEMBER 2021**



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TREE SURVEY DATA

TREE PHOTOGRAPHIC APPENDIX

## 1.0 REPORT PURPOSE AND SUMMARY

This Tree Report was prepared at the request of the Chevron Environmental Management Company (Chevron) to support an application for the decommissioning of the Carpinteria Oil and Gas Processing Facility (Project Site), located in the City of Carpinteria, California. The Project Site supports approximately 1,500 trees comprised of least 21 species; 45 percent of which (677 trees) are non-native blue gum (*Eucalyptus globulus*). Completion of decommissioning activities at the Project Site are expected to require the removal of approximately 60 blue gum and two (2) Monterey cypress (*Cupressus macrocarpa*) trees, or 4.1 percent of the Project Site's entire tree total; both species of which are planted specimens and are non-native or introduced to the region. None of the trees expected to be removed are located within Environmentally Sensitive Habitat Area (ESHA).

## **2.0 TREE PRESERVATION AND PROTECTION GUIDELINES**

The assessment of potential tree impacts associated with the decommissioning activity are required to comply with the City of Carpinteria General Plan and Local Coastal Plan, and the California Environmental Quality Act (CEQA). Objective OSC-2 of the City of Carpinteria General Plan and Local Coastal Plan is to “Preserve and restore the natural resources of the Carpinteria Bluffs.” Policy OSC-2i under Objective OSC-2 states:

“Preserve all windrow trees as one part of a contiguous and naturally preserved open space system across the whole of the Carpinteria Bluffs. Thinning, pruning and removal of trees shall be limited to what is necessary to maintain the trees in a healthful condition and to remove any hazardous condition. When a tree is approved by the City for removal, it shall be required to be replaced at a ratio appropriate to ensure infill of any gap created in the windrow and with a tree type and size to be approved by the City. Replacement trees that fail to survive within the first five years after planting shall be replaced. Planting of native trees is encouraged as are programs for phased removal and replacement of tamarisk windrows in favor of native tree windrows. Development or other activity proposed on parcels including windrows shall be setback a minimum of 10 feet from the drip line of the trees and shall not result in compacting of soil or other potential damage to the trees’ root system or water source.”

According to the City of Carpinteria Guidelines for the Implementation of the California Environmental Quality Act (CEQA) for impacts to biological resources, specimen trees are defined in the City’s Municipal Code as:

“those with a diameter of at least six inches measured four feet above the ground with a minimum height of at least six feet. For trees that do not have a single trunk, the diameter of all upright woody stems should be combined for the measurement of the diameter...All native tree species, regardless of size, should be considered to be biologically valuable. In particular, young oak trees which do not meet the definition of specimen trees are a significant biological resource due to declining oak populations.”

### 3.0 METHODOLOGY

All protected trees located on the subject parcels were identified and tallied by species or general type throughout the entire Project Site. The proportion of trees that may require removal of the trees due to their location within an anticipated work footprint were given an additional physical and horticultural evaluation. Components of the tree evaluation included:

- Identification of tree species, including;
  - Geographic origin (native vs. non-native to California, or native to California but introduced to the Project Site's region)
  - Invasiveness rating (if applicable) or other determination according to the California Invasive Plant Council (Cal-IPC) Inventory and its supplements for species native to part of California but invasive in other parts of the state, or species pending assessment;
- Assignment of a tree number, and nailing a numbered aluminum tree tag to the trunk;
- Measurement of all trunks at 4.5 feet above the root crown unless noted otherwise due to trunk anomalies;
- Estimation of the maximum tree canopy spread;
- Estimation of tree height;
- Assignment of health, vigor, and appearance ratings, where:
  - "A" = Outstanding (a healthy and vigorous tree characteristic of its species and reasonably free of any visible signs of stress, disease or pest infestation, or physical defects)
  - "B" = Above Average (a healthy and vigorous tree with minor visible signs of stress, disease and/or pest infestation, or physical defects)
  - "C" = Average (although healthy in overall appearance there is an abnormal amount of stress or disease and/or pest infestation, or physical defects)
  - "D" = Below Average/Poor (A tree characterized by exhibiting a greater degree of stress, disease and/or pest infestation, or physical defects than normal and appears to be in a state of rapid decline. The degree of decline may vary greatly in signs of dieback, disease and pest infestation and appears to be in an advanced state of decline), or
  - "F" = Dead (A tree exhibiting no signs of life whatsoever);
- Calculation of an index score from the health, vigor and appearance ratings, by averaging the three scores (adding together, then dividing by 3), where:
  - "A" = 4 out of 4 points
  - "B" = 3 out of 4 points
  - "C" = 2 out of 4 points
  - "D" = 1 out of 4 points



"F" = 0 out of 4 points

- Identification of the tree location by operational area, windrow, or other geographic markers; and
- Color digital photograph of single trees or small groups of trees.

## 4.0 TREE SURVEY RESULTS

A total of 1,500 specimen trees were tallied by species throughout the entire Project Site in April 2021 and are presented in Table 1 below. The locations of protected trees (windrows, stands or individuals) found within the Project Site are provided on the attached Tree Inventory Map.

**Table 1. Tree Inventory of the Project Site**

Common Name	Scientific Name	Tally	Origin	Cal-IPC Invasiveness Rating <sup>1</sup>
Blue gum	<i>Eucalyptus globulus</i>	677	Non-native, planted, some on-site reproduction	Limited
Monterey pine	<i>Pinus radiata</i>	42	Native to California but introduced to this region, planted	Problematic native; Moderately invasive in NW California
Aleppo pine	<i>Pinus halepensis</i>	2	Non-native, planted	Assessed, not on inventory
Monterey cypress	<i>Cupressus macrocarpa</i>	38	Native to California but introduced to this region, planted	Problematic native; Moderately invasive in NW California
Coast live oak	<i>Quercus agrifolia</i>	225	Native, colonized site, planted, on-site reproduction	Not applicable
Western sycamore	<i>Platanus racemosa</i>	80	Native, planted, on-site reproduction	Not applicable
London plane	<i>Platanus x acerifolia</i>	4	Non-native, planted	Not applicable
Arroyo willow	<i>Salix lasiolepis</i>	51	Native, colonized site	Not applicable
Fan palm	<i>Washingtonia filifera</i>	4	Non-native, colonized site	No rating
Norfolk Island pine	<i>Araucaria heterophylla</i>	1	Non-native, planted	No rating
Victorian box	<i>Pittosporum undulatum</i>	31	Non-native, planted	Watch
Myoporum	<i>Myoporum laetum</i>	10	Non-native, planted	Moderate
Brazilian pepper	<i>Schinus terebinthifolius</i>	5	Non-native, planted	Moderate
Oregon ash	<i>Fraxinus latifolia</i>	9	Introduced, planted	No rating
Athel tamarisk	<i>Tamarix aphylla</i>	93	Non-native, planted	Limited
Dawn redwood	<i>Metasequoia glyptostroboides</i>	7	Non-native, planted	No rating
Avocado	<i>Persea americana</i>	5	Non-native, planted	No rating
Sydney golden wattle	<i>Acacia longifolia</i>	12	Non-native, planted	Watch
Chinese elm	<i>Ulmus parvifolia</i>	7	Non-native, planted	Assessed, not on inventory

Toyon	<i>Heteromeles arbutifolia</i>	135	Native, planted, on-site reproduction	Not applicable
Various fruit	<i>Not specified</i>	6	Non-native, planted	No rating
Other ornamental	<i>Not specified</i>	4	Non-native, planted	No rating
Blue elderberry	<i>Sambucus nigra ssp. caerulea</i>	52	Native, planted, on-site reproduction	Not applicable
<b>Total:</b>		<b>1,500</b>		

<sup>1</sup>Cal-IPC Invasiveness Ratings (<https://www.cal-ipc.org/plants/inventory/>):

High – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate – These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited – These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Alert – An Alert is listed on species with High or Moderate impacts that have limited distribution in California, but may have the potential to spread much further.

Watch – These species have been assessed as posing a high risk of becoming invasive in the future in California.

A summary of tree data of estimated impacts due to complete removal are provided in Table 2 below. Tree data recorded for each tree anticipated for removal are summarized in Table 3 below and are provided in the attached Tree Survey Data spreadsheet. Photographs of each tree or small groups of trees are also provided as an attachment.

**Table 2. Tree Impact (Removal) Summary According to Tree Health, Vigor & Appearance Index Scores**

TREE SCORE:	4 (A)	3 (B)	2 (C)	1 (D)	TOTAL
Anticipated Tree Impacts (Removals)	3	16	27	16	<b>62</b>
Percent of Impacted Trees by Score	5%	26%	43%	26%	<b>100%</b>
Project Site Tree Tally	NT	NT	NT	NT	<b>1,500</b>
Percent of Impacted Trees within Project Site	0.2%	1.1%	1.8%	1.1%	<b>4.1%</b>

NT: Not taken (only the trees anticipated for removal were evaluated for health, vigor, and appearance)

Based on the proposed work activity limits, here is a summary of the tree survey, and anticipated impacts metrics:

- A total of 62 live trees and 0 dead trees were evaluated. Tree survey data described above was recorded for all 62 live trees.
- Sixty (60) of the trees evaluated are blue gum (*Eucalyptus globulus*) trees, which are planted in the Main Plant Area middle east-west windrow, the Main Plant Area southern north-south windrow, and in the Chevron Pipeline Area east-west windrow.
- Two (2) of the trees evaluated are Monterey cypress (*Cupressus macrocarpa*) trees, which are planted in the southern portion of the Main Plant Area, adjacent to the fence that borders the Union Pacific railroad right-of-way.
- 69 percent of the trees evaluated received a health-vigor-appearance index score of 2 out of 4 points (C rating) or worse, predominantly due to thinning crown, lopsided canopy, and evidence of previous topping.
- Anticipated impacts to these 62 trees are complete removals.
- Tree impacts (removals) are estimated at 4.1% of the entire tree population at the Project Site.
- Zero (0) trees expected to be removed are located within Environmentally Sensitive Habitat Area (ESHA).

**Table 3. Tree Data Summary**

Location	Tree Number	Species	Diameter (in)	Maximum Canopy Spread (ft)	Approximate Height	Photograph Number(s)	Health Rating	Vigor Rating	Aesthetics Rating	Index Score	Previously Topped?
Main Plant Middle E-W Row	1	<i>Eucalyptus globulus</i>	41	30	60	2825	A	A	B	4	Yes at 30 ft
Main Plant Middle E-W Row	2	<i>Eucalyptus globulus</i>	41	30	55	2826	A	A	B	4	Yes at 30 ft
Main Plant Middle E-W Row	3	<i>Eucalyptus globulus</i>	41	35	65	2827	C	C	C	2	Yes at 30 ft
Main Plant Middle E-W Row	4	<i>Eucalyptus globulus</i>	42	30	65	2827	C	C	C	2	Yes at 30 ft
Main Plant Middle E-W Row	5	<i>Eucalyptus globulus</i>	26	20	60	2828	C	C	C	2	Yes at 30 ft
Main Plant Middle E-W Row	6	<i>Eucalyptus globulus</i>	32	20	60	2829	C	C	C	2	Yes at 30 ft
Main Plant Middle E-W Row	7	<i>Eucalyptus globulus</i>	31	30	60	2829	C	C	C	2	Yes at 30 ft
Main Plant Middle E-W Row	8	<i>Eucalyptus globulus</i>	30	30	60	2829	C	C	C	2	Yes at 30 ft
Main Plant Middle E-W Row	9	<i>Eucalyptus globulus</i>	28	30	60	2829	D	D	D	1	Yes at 30 ft
Main Plant Middle E-W Row	10	<i>Eucalyptus globulus</i>	25	30	55	2030	D	D	D	1	Yes at 30 ft
Main Plant Middle E-W Row	11	<i>Eucalyptus globulus</i>	19	20	60	2030	D	D	D	1	Yes at 30 ft
Main Plant Middle E-W Row	12	<i>Eucalyptus globulus</i>	38	30	60	2030	B	C	C	2	Yes at 30 ft
Main Plant South N-S Row	13	<i>Eucalyptus globulus</i>	8	15	20	2031	B	B	D	2	Yes at 20 ft
Main Plant South N-S Row	14	<i>Eucalyptus globulus</i>	10	15	20	2031	B	B	D	2	Yes at 20 ft
Main Plant South N-S Row	15	<i>Eucalyptus globulus</i>	10,7	10	20	2031	B	B	D	2	Yes at 20 ft
Main Plant South N-S Row	16	<i>Eucalyptus globulus</i>	29	20	20	2833	D	D	D	1	Yes at 20 ft

**Table 3. (Continued)**

Location	Tree Number	Species	Diameter (in)	Maximum Canopy Spread (ft)	Approximate Height	Photograph Number(s)	Health Rating	Vigor Rating	Aesthetics Rating	Index Score	Previously Topped?
Main Plant South N-S Row	17	<i>Eucalyptus globulus</i>	17	15	40	2835	D	D	D	1	No
Main Plant South N-S Row	18	<i>Eucalyptus globulus</i>	16	15	40	2835	D	D	D	1	No
Main Plant South N-S Row	19	<i>Eucalyptus globulus</i>	23 at Base	30	20	2835	D	D	D	1	Yes at 15 ft
Main Plant South N-S Row	20	<i>Eucalyptus globulus</i>	27	35	60	2836	C	C	B	2	No
Main Plant South N-S Row	21	<i>Eucalyptus globulus</i>	41	35	60	2837	B	B	B	3	No
Main Plant South N-S Row	22	<i>Eucalyptus globulus</i>	8,8,7,11, 9,9	20	35	2837	D	D	D	1	Yes at 30 and 20 ft
Main Plant South N-S Row	23	<i>Eucalyptus globulus</i>	22	35	70	2837, 2838	B	B	B	3	No
Main Plant South N-S Row	24	<i>Eucalyptus globulus</i>	29	40	65	2838	B	B	B	3	No
Main Plant South N-S Row	25	<i>Eucalyptus globulus</i>	29	40	65	2838	B	B	B	3	No
Main Plant South N-S Row	26	<i>Eucalyptus globulus</i>	14	25	35	2838	C	B	D	2	Yes at 15 ft
Main Plant South N-S Row	27	<i>Eucalyptus globulus</i>	24	25	60	2838, 2839	C	C	D	2	Yes at 10 ft
Main Plant South N-S Row	28	<i>Eucalyptus globulus</i>	35	35	55	2839	C	C	C	2	No
Main Plant South N-S Row	29	<i>Eucalyptus globulus</i>	15,9	20	45	2839	C	C	D	2	No
Main Plant South N-S Row	30	<i>Eucalyptus globulus</i>	19	15	30	2839	C	C	D	2	Yes at 30 ft
Main Plant South N-S Row	31	<i>Eucalyptus globulus</i>	17	20	55	2839	D	D	D	1	No
Main Plant South N-S Row	32	<i>Eucalyptus globulus</i>	26	30	55	2839	B	B	B	3	No

**Table 3. (Continued)**

Location	Tree Number	Species	Diameter (in)	Maximum Canopy Spread (ft)	Approximate Height	Photograph Number(s)	Health Rating	Vigor Rating	Aesthetics Rating	Index Score	Previously Topped?
Main Plant South N-S Row	33	<i>Eucalyptus globulus</i>	33	25	50	2840	B	B	C	3	Yes at 30 ft
Main Plant South N-S Row	34	<i>Eucalyptus globulus</i>	21	30	45	2840	B	B	C	3	No
Main Plant South N-S Row	35	<i>Eucalyptus globulus</i>	31	35	60	2840	B	B	C	3	No
Main Plant South N-S Row	36	<i>Eucalyptus globulus</i>	26	30	60	2840	B	B	C	3	No
Main Plant South N-S Row	37	<i>Eucalyptus globulus</i>	18	30	50	2840	B	B	C	3	No
Main Plant South N-S Row	38	<i>Eucalyptus globulus</i>	19	25	45	2841	B	B	C	3	Yes at 30 ft
Main Plant South N-S Row	39	<i>Eucalyptus globulus</i>	24	25	45	2841	B	B	C	3	No
Main Plant South N-S Row	40	<i>Eucalyptus globulus</i>	29 at 3 ft	20	50	2841	C	C	D	2	No
Main Plant South N-S Row	41	<i>Eucalyptus globulus</i>	25	25	55	2841, 2842	C	D	C	2	No
Main Plant South N-S Row	42	<i>Eucalyptus globulus</i>	17	20	50	2842	C	C	D	2	No
Main Plant South N-S Row	43	<i>Eucalyptus globulus</i>	26	25	50	2842	C	C	D	2	No
Main Plant South N-S Row	44	<i>Eucalyptus globulus</i>	26	40	40	2842	B	B	C	3	Yes at 20 ft
Main Plant South N-S Row	45	<i>Eucalyptus globulus</i>	13	10	15	2843	B	B	D	2	Yes at 10 ft
Main Plant South N-S Row	46	<i>Eucalyptus globulus</i>	16	15	30	2843	D	D	D	1	Yes at 15 ft
Main Plant South N-S Row	47	<i>Eucalyptus globulus</i>	11	15	45	2843	D	D	D	1	No
Main Plant South N-S Row	48	<i>Eucalyptus globulus</i>	18	20	50	2844	D	D	D	1	No

**Table 3. (Continued)**

Location	Tree Number	Species	Diameter (in)	Maximum Canopy Spread (ft)	Approximate Height	Photograph Number(s)	Health Rating	Vigor Rating	Aesthetics Rating	Index Score	Previously Topped?
Main Plant South N-S Row	49	<i>Eucalyptus globulus</i>	27 at 2 ft	30	55	2844	B	B	B	3	No
Main Plant South N-S Row	50	<i>Eucalyptus globulus</i>	10	10	45	2845	C	C	D	2	Yes at 20 ft
Main Plant South N-S Row	51	<i>Eucalyptus globulus</i>	32,29	35	60	2846	A	A	B	4	No
Main Plant South N-S Row	52	<i>Eucalyptus globulus</i>	51	35	45	2846	D	D	D	1	No - Leaning, pruned
Main Plant South N-S Row	53	<i>Eucalyptus globulus</i>	9,9,9,10, 6	25	35	2847	B	B	D	2	Yes at ground
Main Plant along Railroad	54	<i>Cupressus macrocarpa</i>	33 at 1 ft	30	25	2848	B	B	B	3	Pruned lower branches
Main Plant along Railroad	55	<i>Cupressus macrocarpa</i>	27	40	25	2849, 2850	D	D	C	1	Deadwood
Chevron Pipeline Area E-W Row	56	<i>Eucalyptus globulus</i>	30	25	45	2851	B	B	D	2	Lopsided
Chevron Pipeline Area E-W Row	57	<i>Eucalyptus globulus</i>	40	30	60	2851	B	B	B	3	No
Chevron Pipeline Area E-W Row	58	<i>Eucalyptus globulus</i>	29	35	60	2852	C	C	C	2	No
Chevron Pipeline Area E-W Row	59	<i>Eucalyptus globulus</i>	28	30	55	2852	C	C	C	2	No
Chevron Pipeline Area E-W Row	60	<i>Eucalyptus globulus</i>	30	35	60	2852	C	C	C	2	No
Chevron Pipeline Area E-W Row	61	<i>Eucalyptus globulus</i>	20	10	25	2852	D	D	D	1	Yes at 10 ft
Chevron Pipeline Area E-W Row	62	<i>Eucalyptus globulus</i>	23	15	30	2852	D	D	D	1	Yes at 20 ft



Decommissioning activities at the Project Site including belowground pipeline removals, surface asphalt and concrete slab removals, and remedial soil excavations may be expected to encroach into the critical root zones of other trees not evaluated in Tables 2 and 3 above, but these additional trees would not be expected to require removal. Table 4 provides an estimate of approximately 296 trees including 232 blue gum, 35 athel tamarisk, 10 coast live oak, 7 Chinese elm, 7 dawn redwood, and 5 Monterey cypress trees that may undergo varying degrees of root zone encroachment according to a comparison of the tree inventory data and Figures 7.1-2, 7.1-3, and 7.1-4 in the Project Description (Padre, October 2021). Tree protection measures for trees undergoing encroachment are provided in Section 5 below.

**Table 4. Tree Impact (Encroachment) Estimation for Decommissioning Activities**

Location	Species	Estimated Quantity	Proposed Activity		
			Pipeline Removal	Asphalt or Concrete Removal	Remedial Soil Excavation
Former Marketing Terminal Area	Blue gum ( <i>E. globulus</i> )	75		X	X
Former Marketing Terminal Area	Chinese elm ( <i>U. parvifolia</i> )	7		X	X
Shop & Maintenance Area	Blue gum ( <i>E. globulus</i> )	55	X	X	X
Shop & Maintenance Area	Coast live oak ( <i>Q. agrifolia</i> )	10	X		
Shop & Maintenance Area	Dawn redwood ( <i>M. glyptostroboides</i> )	7	X		
MSRC Lease Area	Blue gum ( <i>E. globulus</i> )	70		X	X
Main Plant Area	Blue gum ( <i>E. globulus</i> )	20	X	X	
Main Plant Area	Athel tamarisk ( <i>T. aphylla</i> )	35	X	X	X
Main Plant Area	Monterey cypress ( <i>C. macrocarpa</i> )	1	X		
Chevron Pipeline Area	Blue gum ( <i>E. globulus</i> )	12	X	X	X
Chevron Pipeline Area	Monterey cypress ( <i>C. macrocarpa</i> )	4	X	X	X
<b>Total:</b>		<b>296</b>			

## **5.0 TREE PROTECTION MEASURES**

Trees that may be encroached upon, but not removed by decommissioning activities would be expected to survive as long as the encroachment is not too severe (i.e., impacts to their root zone, trunks or canopy are minimized), and sufficient measures are taken to protect the trees in place. The following protection measures are proposed to ensure their survival:

- If feasible, grading plans should be adjusted to avoid the critical root zone of some or all of these trees. If some or all of these trees are still considered candidates for encroachment upon final approval of the grading plans, temporary staking or flagging will be placed along the grading limits prior to initiation of construction for clear identification and to ensure tree impacts are minimized.
- Tree protection areas will be marked in the field in collaboration with a certified arborist or qualified biologist using fencing and/or flagging, which may coincide or overlap with the staked/flagged grading limits.
- All ground disturbance within 10 feet of the canopy dripline of affected trees will be monitored by a certified arborist or qualified biologist with tree care experience.
- Staging of equipment and vehicles shall be located outside of the tree protection areas. Placement of heavy equipment for earthwork shall be as far away from the tree protection zones as feasible and should never be less than 6 feet from the trunk of each specimen tree.
- Overhead branches that conflict with Project activities may be pruned by a qualified tree trimmer according to International Society of Arboriculture (ISA) pruning standards.
- Excavation activities within tree protection areas will be allowed if soil sampling indicates soils exceed remediation targets and work is conducted with hand tools only, including hydro-excavation. To the extent feasible, hydro-excavation shall not be used in direct contact of roots to avoid damaging the root epidermis and root hair connections of smaller absorptive roots.
- If cutting of roots that are intertwined with belowground features is required, roots shall be saw-cut to avoid tearing, and conducted as far from the trunk as possible.
- Soil removed from critical root zones will be replaced with imported clean soil within 48 hours of completion of excavation. If excavations are required to remain open for greater than 48 hours, roots will be temporarily wrapped or draped in burlap and kept moist until the excavation is backfilled.
- All trees affected by excavation within the critical root zone will be monitored quarterly to detect any loss of vigor.

- Willows within the FSBA and DA4 will be preserved through complete avoidance of the Operational Area in which the willow thicket occurs, or if necessary, temporary installation of construction fencing will occur around each stand of trees throughout the duration of work.

The City of Carpinteria General Plan and Local Coastal Plan encourages the planting of native trees to replace non-native tree removals. The Project Site currently supports approximately 225 coast live oak (*Quercus agrifolia*), 80 western sycamore (*Platanus racemosa*), 52 blue elderberry (*Sambucus nigra ssp. caerulea*), and 135 toyon (*Heteromeles arbutifolia*) trees (or shrubs that may become trees). Replacement of non-native trees with these native species at a ratio of 1:1 or greater is recommended in areas that would expand native vegetation onsite, or possibly to create new habitat patches within portions of the property that are not slated for any developmental purpose. No monarch butterfly roosting habitat trees (e.g., blue gum trees within the BZA) are proposed for removal; therefore, replacement of tree removals with additional non-native trees such as blue gum are not recommended or proposed.

## 6.0 PREPARERS

Data collection was supervised and/or collected by, and the Tree Report was prepared by Mr. Chris Dunn, a biologist with 23 years of professional experience, including over 10 years as an International Society of Arboriculture (ISA) Certified Arborist. Collection of field data was also performed by Michaela Hoffman, Shannon Gonzales and Ryan Newkirk, professional biologists, each with tree evaluation and scientific data collection experience.

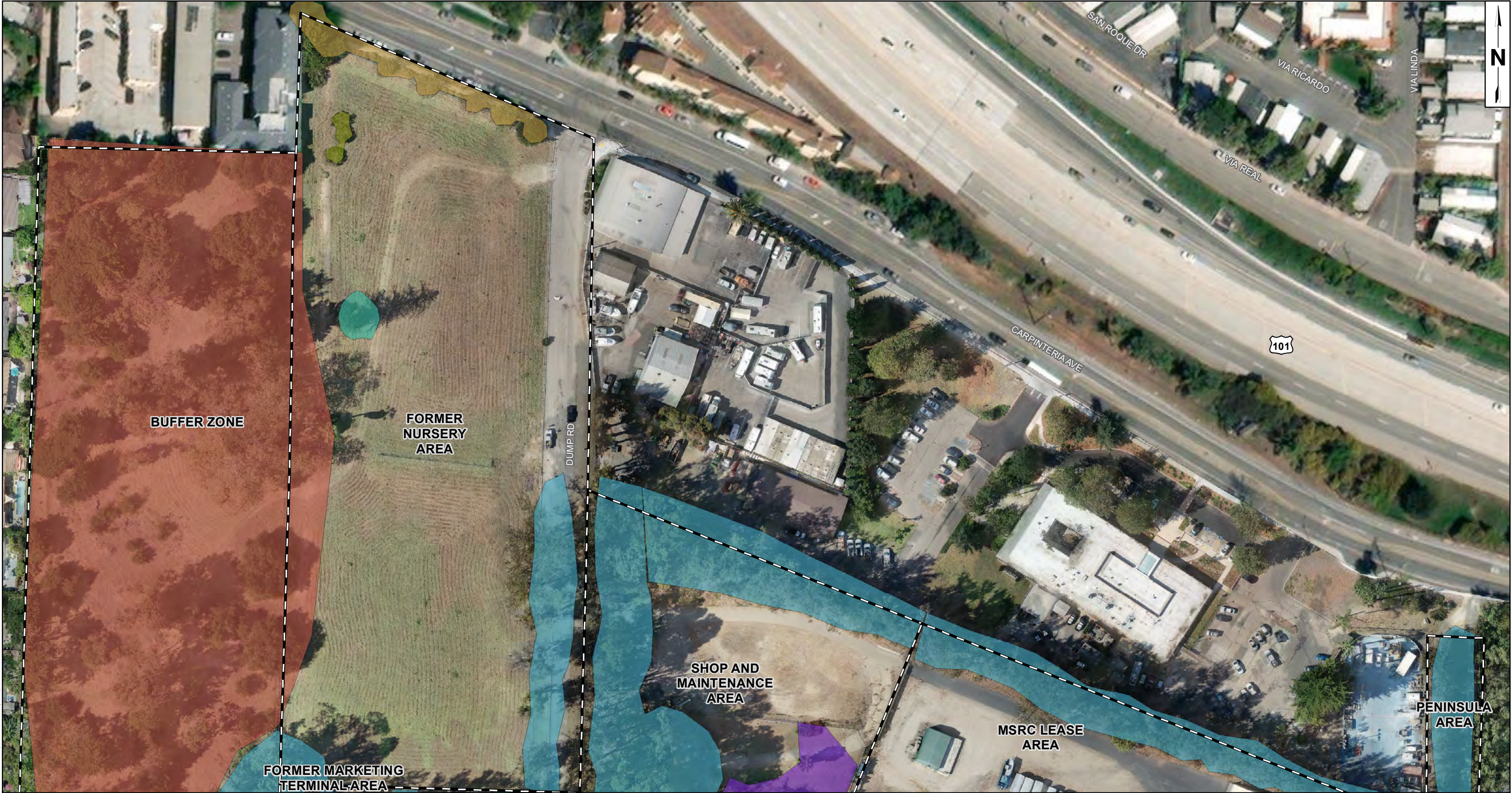


December 14, 2021

Chris Dunn  
ISA Certified Arborist No. WE-9525A  
(805) 644-2220 ext. 12

## **Tree Inventory Map**





**LEGEND:**

Operational Area

**Tree Types:**

Cypress, Sycamore, Ash, & Sage

Island Pine

Tam, Orn, Palm, & Oak

Coyote Brush

Eucalyptus

Mixed Woodland

**MAP EXTENT:**

0 50 100  
FEET

Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.

**padre**  
associates, inc.  
ENGINEERS, GEOLOGISTS &  
ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CHEVRON CARPINTERIA  
OIL AND GAS PROCESSING FACILITY PROPERTIES  
SANTA BARBARA COUNTY, CA

PROJECT NUMBER: 2002-5211

DATE: May 2021

**TREE INVENTORY MAP**

**FIGURE 1**





**LEGEND:**

Operational Area

Tagged Tree Location

**Tree Types:**

Ash, Avocado, & Fruit

Avocado

Coast Live Oak

Cypress

Dawn Redwood

Eucalyptus

Eucalyptus & Elm

Eucalyptus & Pine

Eucalyptus & Tam

Fruit

Mixed Woodland

Om

Tam, Om, Palm, & Oak

Willow

**MAP EXTENT:**

**0 50 100**

**FEET**

Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.

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PROJECT NAME: CHEVRON CARPINTERIA  
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SANTA BARBARA COUNTY, CA

PROJECT NUMBER: 2002-5211

DATE: May 2021

**TREE INVENTORY MAP**

**FIGURE**  
**2**

C-68







## **Tree Survey Data**

COGPC Tree Tally Estimate

	Blue gum	Monterey pine	Aleppo pine	Monterey cypress	Coast oak	live	Western sycamore	Arroyo willow	Fan palm	Norfolk Island pine	Victorian box	Myoporium	Brazilian pepper	Oregon ash	tamarisk	dawn redwood	avocado	Sydney golden wattle	Chinese elm	Toyon	Fruit	Ornamental	Elderberry	Total per area:
Operational Area																								
Buffer Zone*	100	30		13	135	30	1				20	10	5											344
Chevron Pipeline Area				4																				4
Chevron Pipeline Area E-W row	19																	1						20
Chevron Pipeline Area N-S row	50																							50
Drainage Area No. 4*	57	10		2	55	30	3	1												131			33	322
Former Marketing Terminal Area north E-W row	54										3						1							58
Former Marketing Terminal Area N-S rows	28			1														1	7					37
Former Nursery Area*	10			2		4			1	1				1										19
Former Sandblast Area				2	1	5	16																	24
Main Plant				3	1																1			5
Main Plant-Middle E-W row	12																							12
Main Plant-North E-W row	18										1					36								55
Main Plant-North N-S row	22																							22
Main Plant-South N-S row	41																							41
MSRC Lease Area E-W row	70															2		1				1		74
MSRC Lease Area N-S row					1																			1
Peninsula Area	45															34								79
Pier Parking Lot				1	3	8																		12
Pipeline Landing Area	23	1	1	10		6	31				1													73
Railroad Ditch Area			1																					1
Shop and Maintenance Area		1			25				2		5			8	18	7	4			1	5	3		79
Shop and Maintenance E-W row	44														3									47
Shop and Maintenance N-S row	63				1																			64
<i>subtotal</i>																								<b>1443</b>

Additional Survey Areas																								
Former Marketing Terminal Area-Buffer Zone North N-S row	109																							109
Former Marketing Terminal Area-Buffer Zone South N-S row	67				3	1					1							8						80
Former Market Terminal Area Restoration Area	2																	1		3			19	25

	834	42	2	38	225	84	51	4	1	31	10	5	9	93	7	5	12	7	135	6	4	subtotal	214
Corrected redundancy:	677	42	2	38	225	84	51	4	1	31	10	5	9	93	7	5	12	7	135	6	4	52	1657
																						52	1500

\*: Data from 2004 tree survey and 2015 monitoring report. No new survey proposed due to lack of proposed work in BZ.

Tree Survey Data. Carpinteria Oil & Gas Processing Facility, May 14, 2021.

Location	Tree		Maximum Canopy		Approximate Height	Photograph number(s)	Health Rating	Vigor Rating	Aesthetics		Index Score	Previously Topped?	=4	=3	=2	=1
	Number	Species	Diameter (in)	Spread (ft)					Rating	Rating						
Main Plant Middle E-W Row	1	Eucalyptus globulus	41	30	60	2825	A	4	A	4	B	3	4	Yes at 30 ft		
Main Plant Middle E-W Row	2	Eucalyptus globulus	41	30	55	2826	A	4	A	4	B	3	4	Yes at 30 ft	1	
Main Plant Middle E-W Row	3	Eucalyptus globulus	41	35	65	2827	C	2	C	2	C	2	2	Yes at 30 ft		1
Main Plant Middle E-W Row	4	Eucalyptus globulus	42	30	65	2827	C	2	C	2	C	2	2	Yes at 30 ft		1
Main Plant Middle E-W Row	5	Eucalyptus globulus	26	20	60	2828	C	2	C	2	C	2	2	Yes at 30 ft		1
Main Plant Middle E-W Row	6	Eucalyptus globulus	32	20	60	2829	C	2	C	2	C	2	2	Yes at 30 ft		1
Main Plant Middle E-W Row	7	Eucalyptus globulus	31	30	60	2829	C	2	C	2	C	2	2	Yes at 30 ft		1
Main Plant Middle E-W Row	8	Eucalyptus globulus	30	30	60	2829	C	2	C	2	C	2	2	Yes at 30 ft		1
Main Plant Middle E-W Row	9	Eucalyptus globulus	28	30	60	2829	D	1	D	1	D	1	1	Yes at 30 ft		1
Main Plant Middle E-W Row	10	Eucalyptus globulus	25	30	55	2030	D	1	D	1	D	1	1	Yes at 30 ft		1
Main Plant Middle E-W Row	11	Eucalyptus globulus	19	20	60	2030	D	1	D	1	D	1	1	Yes at 30 ft		1
Main Plant Middle E-W Row	12	Eucalyptus globulus	38	30	60	2030	B	3	C	2	C	2	2	Yes at 30 ft		1
Main Plant South N-S Row	13	Eucalyptus globulus	8	15	20	2031	B	3	B	3	D	1	2	Yes at 20 ft		1
Main Plant South N-S Row	14	Eucalyptus globulus	10	15	20	2031	B	3	B	3	D	1	2	Yes at 20 ft		1
Main Plant South N-S Row	15	Eucalyptus globulus	10,7	10	20	2031	B	3	B	3	D	1	2	Yes at 20 ft		1
Main Plant South N-S Row	16	Eucalyptus globulus	29	20	20	2833	D	1	D	1	D	1	1	Yes at 20 ft		1
Main Plant South N-S Row	17	Eucalyptus globulus	17	15	40	2835	D	1	D	1	D	1	1	No		1
Main Plant South N-S Row	18	Eucalyptus globulus	16	15	40	2835	D	1	D	1	D	1	1	No		1
Main Plant South N-S Row	19	Eucalyptus globulus	23 at Base	30	20	2835	D	1	D	1	D	1	1	Yes at 15 ft		1
Main Plant South N-S Row	20	Eucalyptus globulus	27	35	60	2836	C	2	C	2	B	3	2	No		1
Main Plant South N-S Row	21	Eucalyptus globulus	41	35	60	2837	B	3	B	3	B	3	3	No	1	
Main Plant South N-S Row	22	Eucalyptus globulus	8,8,7,11,9,9	20	35	2837	D	1	D	1	D	1	1	Yes at 30 and 20 ft		1
Main Plant South N-S Row	23	Eucalyptus globulus	22	35	70	2837, 2838	B	3	B	3	B	3	3	No	1	
Main Plant South N-S Row	24	Eucalyptus globulus	29	40	65	2838	B	3	B	3	B	3	3	No	1	
Main Plant South N-S Row	25	Eucalyptus globulus	29	40	65	2838	B	3	B	3	B	3	3	No	1	
Main Plant South N-S Row	26	Eucalyptus globulus	14	25	35	2838	C	2	B	3	D	1	2	Yes at 15 ft		1
Main Plant South N-S Row	27	Eucalyptus globulus	24	25	60	2838, 2839	C	2	C	2	D	1	2	Yes at 10 ft		1
Main Plant South N-S Row	28	Eucalyptus globulus	35	35	55	2839	C	2	C	2	C	2	2	No		1
Main Plant South N-S Row	29	Eucalyptus globulus	15,9	20	45	2839	C	2	C	2	D	1	2	No		1
Main Plant South N-S Row	30	Eucalyptus globulus	19	15	30	2839	C	2	C	2	D	1	2	Yes at 30 ft		1
Main Plant South N-S Row	31	Eucalyptus globulus	17	20	55	2839	D	1	D	1	D	1	1	No		1
Main Plant South N-S Row	32	Eucalyptus globulus	26	30	55	2839	B	3	B	3	B	3	3	No	1	
Main Plant South N-S Row	33	Eucalyptus globulus	33	25	50	2840	B	3	B	3	C	2	3	Yes at 30 ft		1
Main Plant South N-S Row	34	Eucalyptus globulus	21	30	45	2840	B	3	B	3	C	2	3	No	1	
Main Plant South N-S Row	35	Eucalyptus globulus	31	35	60	2840	B	3	B	3	C	2	3	No	1	
Main Plant South N-S Row	36	Eucalyptus globulus	26	30	60	2840	B	3	B	3	C	2	3	No	1	
Main Plant South N-S Row	37	Eucalyptus globulus	18	30	50	2840	B	3	B	3	C	2	3	No	1	
Main Plant South N-S Row	38	Eucalyptus globulus	19	25	45	2841	B	3	B	3	C	2	3	Yes at 30 ft	1	
Main Plant South N-S Row	39	Eucalyptus globulus	24	25	45	2841	B	3	B	3	C	2	3	No	1	
Main Plant South N-S Row	40	Eucalyptus globulus	29 at 3 ft	20	50	2841	C	2	C	2	D	1	2	No		1
Main Plant South N-S Row	41	Eucalyptus globulus	25	25	55	2841, 2842	C	2	D	1	C	2	2	No		1
Main Plant South N-S Row	42	Eucalyptus globulus	17	20	50	2842	C	2	C	2	D	1	2	No		1
Main Plant South N-S Row	43	Eucalyptus globulus	26	25	50	2842	C	2	C	2	D	1	2	No		1
Main Plant South N-S Row	44	Eucalyptus globulus	26	40	40	2842	B	3	B	3	C	2	3	Yes at 20 ft	1	
Main Plant South N-S Row	45	Eucalyptus globulus	13	10	15	2843	B	3	B	3	D	1	2	Yes at 10 ft		1
Main Plant South N-S Row	46	Eucalyptus globulus	16	15	30	2843	D	1	D	1	D	1	1	Yes at 15 ft		1
Main Plant South N-S Row	47	Eucalyptus globulus	11	15	45	2843	D	1	D	1	D	1	1	No		1
Main Plant South N-S Row	48	Eucalyptus globulus	18	20	50	2844	D	1	D	1	D	1	1	No		1
Main Plant South N-S Row	49	Eucalyptus globulus	27 at 2 ft	30	55	2844	B	3	B	3	B	3	3	No	1	
Main Plant South N-S Row	50	Eucalyptus globulus	10	10	45	2845	C	2	C	2	D	1	2	Yes at 20 ft		1
Main Plant South N-S Row	51	Eucalyptus globulus	32,29	35	60	2846	A	4	A	4	B	3	4	No	1	
Main Plant South N-S Row	52	Eucalyptus globulus	51	35	45	2846	D	1	D	1	D	1	1	No - Leaning, pruned		1
Main Plant South N-S Row	53	Eucalyptus globulus	9,9,9,10,6	25	35	2847	B	3	B	3	D	1	2	Yes at ground		1
Main Plant along Railroad	54	Cupressus macrocarpa	33 at 1 ft	30	25	2848	B	3	B	3	B	3	3	Pruned lower branches	1	
Main Plant along Railroad	55	Cupressus macrocarpa	27	40	25	2849, 2850	D	1	D	1	C	2	1	Deadwood		1
Chevron Pipeline Area E-W Row	56	Eucalyptus globulus	30	25	45	2851	B	3	B	3	D	1	2	Lopsided		1
Chevron Pipeline Area E-W Row	57	Eucalyptus globulus	40	30	60	2851	B	3	B	3	B	3	3	No (CATO Nesting)	1	
Chevron Pipeline Area E-W Row	58	Eucalyptus globulus	29	35	60	2852	C	2	C	2	C	2	2	No		1
Chevron Pipeline Area E-W Row	59	Eucalyptus globulus	28	30	55	2852	C	2	C	2	C	2	2	No		1
Chevron Pipeline Area E-W Row	60	Eucalyptus globulus	30	35	60	2852	C	2	C	2	C	2	2	No		1
Chevron Pipeline Area E-W Row	61	Eucalyptus globulus	20	10	25	2852	D	1	D	1	D	1	1	Yes at 10 ft		1
Chevron Pipeline Area E-W Row	62	Eucalyptus globulus	23	15	30	2852	D	1	D	1	D	1	1	Yes at 20 ft		1
													3	16	27	16

## **Tree Photographic Appendix**



**Photo 1.** Tree 1, *Eucalyptus globulus* (IMG\_2825\_Tree1.JPG).





**Photo 2.** Tree 2, *Eucalyptus globulus* (IMG\_2826\_Tree2.JPG).





**Photo 3.** Trees 3 and 4, *Eucalyptus globulus* (IMG\_2827\_Trees3&4).





**Photo 4.** Trees 4, 5, and 6, *Eucalyptus globulus* (IMG\_2828\_Tree5 middle).





**Photo 5.** Trees 6, 7, 8 and 9, *Eucalyptus globulus* (IMG\_2829\_Trees6-9).





**Photo 6.** Trees 10, 11, and 12, *Eucalyptus globulus* (IMG\_2830\_Trees10-12).





**Photo 7.** Trees 13, 14, and 15, *Eucalyptus globulus* (IMG\_2831\_Trees13-15).





**Photo 8.** Tree 16, *Eucalyptus globulus* (IMG\_2833\_Tree16).





**Photo 9.** Trees 17, 18, and 19, *Eucalyptus globulus* (IMG\_2835\_Trees17-19).





**Photo 10.** Trees 18, 19, 20, and 21, *Eucalyptus globulus* (IMG\_2836\_Tree20).





**Photo 11.** Trees 21, 22, 23, and 24, *Eucalyptus globulus* (IMG\_2837\_Trees21-23).





**Photo 12.** Trees 23, 24, 25, 26, and 27, *Eucalyptus globulus* (IMG\_2838\_Trees23-27).





**Photo 13.** Trees 27, 28, 29, 30, 31, and 32, *Eucalyptus globulus* (IMG\_2839\_Trees27-32).





**Photo 14.** Trees 33, 34, 35, 36, and 37, *Eucalyptus globulus* (IMG\_2840\_Trees33-37).





**Photo 15.** Trees 38, 39, 40, and 41, *Eucalyptus globulus* (IMG\_2841\_Trees38-41).





**Photo 16.** Trees 41, 42, 43, and 44, *Eucalyptus globulus* (IMG\_2842\_Trees41-44).





**Photo 17.** Trees 45, 46, and 47, *Eucalyptus globulus* (IMG\_2843\_Trees45-47).





**Photo 18.** Trees 48 and 49, *Eucalyptus globulus* (IMG\_2844\_Trees48,49).





**Photo 19.** Tree 50 (in center of photo), *Eucalyptus globulus* (IMG\_2845\_Tree50).





**Photo 20.** Trees 49, 50, 51, and 52, *Eucalyptus globulus* (IMG\_2846\_Trees49-52).





**Photo 21.** Tree 53, *Eucalyptus globulus* (IMG\_2847\_Tree53).



**Photo 22.** Tree 54, *Cupressus macrocarpa* (IMG\_2848\_Tree54).





**Photo 23.** Tree 55, *Cupressus macrocarpa* (IMG\_2850\_Tree55).



**Photo 24.** Trees 56, 57, and 58, *Eucalyptus globulus* (IMG\_2851\_Trees56-58).





**Photo 25.** Trees 58, 59, 60, 61, and 62, *Eucalyptus globulus* (IMG\_2852\_Trees58-62).

## **Appendix C-3**

### **Tree Maintenance and Hazard Reduction Plan**

**TREE MAINTENANCE AND HAZARD REDUCTION PLAN**

**CARPINTERIA OIL AND GAS PROCESSING FACILITIES**  
**CARPINTERIA, SANTA BARBARA COUNTY, CALIFORNIA**

**Project No. 1901-0505**

**Prepared for:**

Chevron U.S.A  
3916 State Street, Suite 200  
Santa Barbara, CA 93105

**Prepared by:**

Padre Associates, Inc.  
1861 Knoll Drive  
Ventura, California 93003

**JUNE 2023**  
**REV. 1**



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## LIST OF ATTACHMENTS

TREE MAINTENANCE INVENTORY MAP

BIOLOGICAL SURVEY REPORT



## 1.0 PLAN PURPOSE AND SUMMARY

This Tree Maintenance and Hazard Reduction Plan (Plan) was prepared at the request of Chevron U.S.A (Chevron) to support a significant tree maintenance activity for the elimination of safety hazards at the Carpinteria Oil and Gas Processing Facility (Project Site), located in the City of Carpinteria, California. Recent storms during the 2022-2023 winter season have resulted in significant tree instability and several tree failures (a total of 12 trees to date) at the Project Site or falling onto the Project Site from adjacent land, with targets being subject to hazardous conditions, including high voltage transmission lines, buildings, pedestrians, and vehicles.

As a result, Chevron elected to have the trees evaluated for risk of failure and determine proper mitigation measures to reduce or eliminate hazardous conditions. This evaluation was conducted by an International Society of Arboriculture (ISA) Certified Arborist and Certified Tree Care Professional (Branch Out Tree Care). A total of approximately 608 trees were evaluated throughout 12 areas within the Project Site to identify the needs for maintenance (see Attachment A). The evaluation identified that in some instances, the cause of recent tree failures and potential additional failures was high soil saturation in conjunction with structural weakness caused by fungal root decay. The evaluation also determined that many trees that have been topped in the past have weakly connected sprout heads and are also prone to failure from above.

The Project Site supports a total of approximately 1,500 trees comprised of at least 21 species; 45 percent of which (677 trees) are non-native blue gum (*Eucalyptus globulus*). Completion of tree maintenance activities at the Project Site are expected to require major pruning or topping of approximately 522 blue gum trees, and removal of approximately 22 dead, leaning or decaying blue gum or athel tamarisk (*Tamarix aphylla*) trees, both species of which are planted specimens and are non-native or introduced to the region. The total tree work is on approximately 544 trees, or 36 percent of the Project Site's entire tree population.

Approximately 110 trees planned for tree maintenance are located along the southeast margin of the Buffer Zone, within or immediately adjacent to city-defined Environmentally Sensitive Habitat Area (ESHA), but none of these trees are planned for removal. According to conversations onsite with Branch Out Tree Care, trees within this area exhibiting hazardous conditions would be topped and/or trimmed of lateral branches extending toward sensitive targets below (e.g., the Former Marketing Terminal Area and the Union Pacific Railroad), but their remaining lower canopy would be left intact to maintain suitable cover and visual screening. The larger proportion of trees in ESHA would be protected in place to maintain monarch butterfly, avian and other wildlife habitat.

A qualified biologist has conducted pre-activity surveys and will provide regular oversight for protection of nesting birds or other sensitive biological resources.

## **2.0 TREE PRESERVATION AND PROTECTION GUIDELINES**

An assessment of potential tree impacts associated with the proposed Plan has been conducted to ensure compliance with the City of Carpinteria General Plan and Local Coastal Plan. However, implementation of the Plan for the protection of life and property is paramount, as there are significant public and workforce safety hazards associated with the tree instability observed at the Project Site. To the extent feasible, the Plan will comply with City Objectives and Guidelines.

### **3.0 NESTING BIRD PROTECTIONS**

The U.S. Fish and Wildlife Service (USFWS) administers the Federal Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711). The purpose of the MBTA is the “establishment of a federal prohibition, unless permitted by regulations, to pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention for the protection of migratory birds, or any part, nest or egg of any such bird” (16 USC 703). Implementing regulations at 50 CFR 10 list the migratory birds covered under the MBTA.

The California Department of Fish and Wildlife (CDFW) administers State laws designed to protect wildlife and plants, including those laws stated within Fish and Game Code (FGC) Section 3511, 3503, 3503.5. Under Section 3511 of the Fish and Game Code, CDFG designates species that are afforded “fully protected” status. Under this protection, designated species can only be taken or possessed with a permit. Fish and Game Code 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird. Section 3503.5 of the Fish and Game Code states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.”

Pre-activity biological surveys were performed by Padre Associates, Inc. on Friday, Monday, and Tuesday, March 3, 6, and 7, 2023, with follow-up visits on March 20, March 27 through 31, April 1, 3, 4, 10, 12, 13, 18, and 24, and May 19, and 25, 2023. Thirty-six (36) of the 39 bird species observed during the pre-activity biological surveys are protected by the MBTA and FGC 3503 and 3503.5 when nesting (see Attachment 2). The Plan will uphold Federal and State nesting bird protections throughout its implementation, as described in Sections 4 and 5 below.

#### **4.0 PLAN METHODOLOGY AND IMPLEMENTATION**

Implementation of the proposed Plan includes the following tasks in the general order they are conducted:

Hazard Evaluation. Branch Out Tree Care conducted a field evaluation to classify risk of tree failures for recommendations to prioritize tree maintenance activities. A total of approximately 608 trees were evaluated throughout 12 areas within the Project Site to identify the needs for maintenance. A majority of these trees have undergone previous topping (and have weakly attached regenerated branches that are prone to failure), and have signs of root and decay fungi, as well as substantial decay cavities. The evaluation was performed in January and February 2023 following the failure of several trees, including some that contacted power transmission and communications lines and narrowly missed the publicly accessible Dump Road. Additional tree failures occurred following subsequent storm events, which were followed up by additional tree evaluations in March 2023.

Land Survey. WM Surveys, Inc. conducted a land survey in March 2023 to map the location of the trees planned for maintenance activities, focusing on the highest priority trees, which are provided on the attached maps.

Biological Survey. Padre conducted a pre-activity biological survey of the Project Site on March 3, 6, and 7, 2023, focusing mainly on nesting birds, and in particular, raptor (bird-of-prey), activity. Follow-up site visits were performed on March 20, 2023, March 27 through 31, April 1, 3, 4, 10, 12, 13, 18, and 24, and May 19 and 25, 2023. Nesting bird activity was observed by Anna's hummingbird, bushtit, lesser goldfinch, red-tailed hawk (including one active nest which became unoccupied in mid-May, and one inactive nest [occupied in previous years]), California scrub-jay, hooded oriole, American crow, and western bluebird, and these locations are provided on the attached maps. As time progresses, these nests will become inactive, but additional nesting bird activity may be observed throughout the spring and summer months. Bird nest protection measures are provided in Section 5 below.

Tree Maintenance Activities. Branch Out Tree Care will implement tree maintenance activities according to their initial and follow-up evaluations after several additional trees failed. Work is scheduled to begin as soon as April 2023 pending approval, focusing first on actual tree failures and the trees with the highest potential risk of failure in areas where a target and/or threat to public safety exists. The project goal is to minimize the risk of additional tree failures, including failure at ground level and failure of large limbs aloft. Generally, the recommended method to accomplish this goal is to "top" the trees at a height of approximately 40 to 50 feet above ground level, and to trim lateral branches overhanging sensitive targets below by 12 to 15 feet. In areas adjacent to wildlife habitat, vegetated branches in the lower canopy of the trees will be left intact to maintain suitable cover and visual screening. A total of 21 blue gum and one (1) tamarisk trees, most of which are dead or dying, will be completely removed due to high-risk conditions and sensitive targets nearby. A biologist will provide regular oversight to survey and monitor for nesting bird activity and provide direction on avoiding disruption, nest abandonment, or direct mortality.



A crane will service the tree trimming crew, and where high voltage transmission lines are present, they will be de-energized. As the tree maintenance work is performed, areas will be closed to pedestrians and vehicles that are not part of the work. At times, these closures may impact public access to portions of Dump Road. All woody material will be chipped and stockpiled at various locations onsite for later reuse and spreading on unpaved road access routes within the Buffer Zone or for shipping offsite to a recycling/compositing facility. Table 1 below provides a tally of the trees requiring maintenance in each of the 12 areas evaluated within the Project Site. The locations of these trees are provided on the attached Tree Maintenance Inventory Map.

**Table 1. Tree Maintenance Activities Planned at the Project Site**

Project Area	Tree Common Name (Scientific Name)	Tally	Planned Work	Site Hazards & Sensitive Targets
1. Dump Road	Blue Gum ( <i>Eucalyptus globulus</i> )	142	Reduce height to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane. Remove 2 trees.	High-voltage transmission lines, pedestrians, vehicular traffic
2. Tank 861 Area	Blue Gum ( <i>Eucalyptus globulus</i> )	18	Reduce height of 14 trees to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane. Remove 1 tree with visible wood decay fungi to ground level.	Valves and electrical equipment, and storage tank. Gate 2 will be temporarily blocked.
3. East Property Line	Blue Gum ( <i>Eucalyptus globulus</i> )	41	Reduce height to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane.	High-voltage transmission lines along adjacent property.
4. Center East Property	Blue Gum ( <i>Eucalyptus globulus</i> )	12	Reduce height to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane.	Pipelines and equipment, brick structure.
5. Ingersoll Rand Building	Blue Gum ( <i>Eucalyptus globulus</i> )	4	Reduce height to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane.	Pipelines and equipment, high voltage lines, large brick structure.
6. North Property Area	Blue Gum ( <i>Eucalyptus globulus</i> )	7	Reduce height to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane. Remove 1 leaning tree.	MSRC building.
7. Mid-Plant Area	Blue Gum ( <i>Eucalyptus globulus</i> ) Athel Tamarisk ( <i>Tamarix aphylla</i> )	2	Reduce height of blue gum to approximately 50-feet and remove tamarisk leaning on the blue gum.	Leaning tree and associated pressure points.

Project Area	Tree Common Name (Scientific Name)	Tally	Planned Work	Site Hazards & Sensitive Targets
8. Communication Line Pole Area (north of Tank 861)	Blue Gum ( <i>Eucalyptus globulus</i> )	8	Reduce height to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane.	Communication line and supporting pole. Equipment in area will need to be moved.
9. Gate 1 Entry Area	Blue Gum ( <i>Eucalyptus globulus</i> )	13	Reduce height to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane.	Gates, fencing, high voltage lines, Dump Road traffic. Gate 1 will be closed temporarily. Dump Rd. closed intermittently and for up to 2 days.
10. Shorebase Area	Blue Gum ( <i>Eucalyptus globulus</i> )	105 of 155	Reduce height to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane, while considering raptor nesting protection.	Pipes and equipment. Known raptor nest trees and buffer require protection. Adjacent trees to be protected in place as ESHA.
11. MSRC North Property Line Area	Blue Gum ( <i>Eucalyptus globulus</i> )	133	Reduce height of trees to approximately 40-feet and side trim large lateral branches by 12-15 feet with crane. Remove 18 failing, failed, or dead trees.	City Hall parking, electrical and communication lines, gas valve.
12. Buffer Zone	Blue Gum ( <i>Eucalyptus globulus</i> ) (Others present)	59 of 73	Reduce height of trees in gas valve and railroad track area to approximately 50- feet and side trim large lateral branches by 12-15 with crane. Two (2) trees in northwest buffer zone will be reduced in height to approximately 65-feet to contain any tree failures to within buffer zone.	Gas valve, railroad tracks, pedestrians on railroad tracks. Adjacent trees to be protected in place as ESHA.
<b>Total:</b>		<b>544 of 608</b>	<b>522 Topping/Pruning 22 Removals</b>	

## **5.0 RESOURCE PROTECTION MEASURES**

The following protection measures will be implemented to ensure compliance with ISA standards, and nesting bird regulations (MBTA and FGC 3503 and 3503.5). The measures are intended to provide a prescriptive formula addressing trees that require immediate attention, while balancing the need for protections during the nesting season:

- Proposed work areas will be predetermined by the Project's Certified Arborist/Certified Tree Care Specialist utilizing the ISA Tree Risk Assessment methodology. Trees that threaten public safety or significant property damage will be the initial priority for proposed work activities. High priority trees outside of nesting bird protective buffers will be the focus of current maintenance activities and the remainder of the work activities will be reserved to a time after the active nesting season.
- Tree pruning shall be conducted by a qualified tree trimmer according to International Society of Arboriculture (ISA) Best Management Practices for at-risk trees.
- All native trees at the Project Site will be afforded protection from work activities on nearby non-native trees, including direction of felled limbs, staging of equipment, fueling and maintenance, and parking vehicles.
- A qualified biologist will perform a thorough nesting bird survey one week prior to the start of work as a follow-up to the previous surveys already performed. Ongoing breeding/nesting bird surveys will be performed by a qualified biologist throughout the duration of the project as the crew works through different areas.
- Active bird nests will be provided temporary protective buffers of a minimum of 75 feet for passerines, depending on species (some species are more acclimated to human activities than others), and 500 feet for raptors. At the discretion of the biologist, temporary buffers may be increased to avoid disturbing nesting behavior. Work within the buffers will not be initiated until a biologist has confirmed that nesting is complete, and the juveniles have fledged and are independent of the nest.
- A permanent buffer of 25-feet will be provided around raptor nest trees to protect the nests from increased wind exposure. Only very limited tree maintenance will be performed within this buffer, and only when the nests are inactive.
- A Chevron representative and the tree maintenance crew will be provided a biological orientation by a biologist to discuss bird breeding/nesting behavior and required protections.
- Trees on the western edge of the north-south windrow in the Buffer Zone and Drainage Area No. 4 areas will be protected in place to ensure protection of historical monarch butterfly roosting areas.

- The biologist will visit the Project Site and be in direct contact with the tree trimming crew at least once each day for the duration of the activity. Prior to initiating tree maintenance at each location, a tree care specialist will inspect the tree and its surroundings while ascending in the crane and obtaining aerial vantage points. If potential or known breeding/nesting bird activity is observed, the crew will safely stop work, and their findings will be discussed with the biologist before proceeding. If nesting is confirmed, the crew will move to another location outside the buffer established by the biologist.
- Areas of active nest activity will be avoided at all times unless significant danger from a tree fall is evident that threatens public safety or significant property damage. In the rare instance that the hazard tree supports an active nest and cannot be cordoned off until after nesting activity is complete, Chevron will contact CDFW for emergency consultation. With CDFW authorization, all attempts will be made to either leave the nest in place if still intact, or salvage the eggs or chicks and deliver them to a bird rehabilitation center immediately after the tree is felled and the safety concern is eliminated.



## **6.0 PREPARERS**

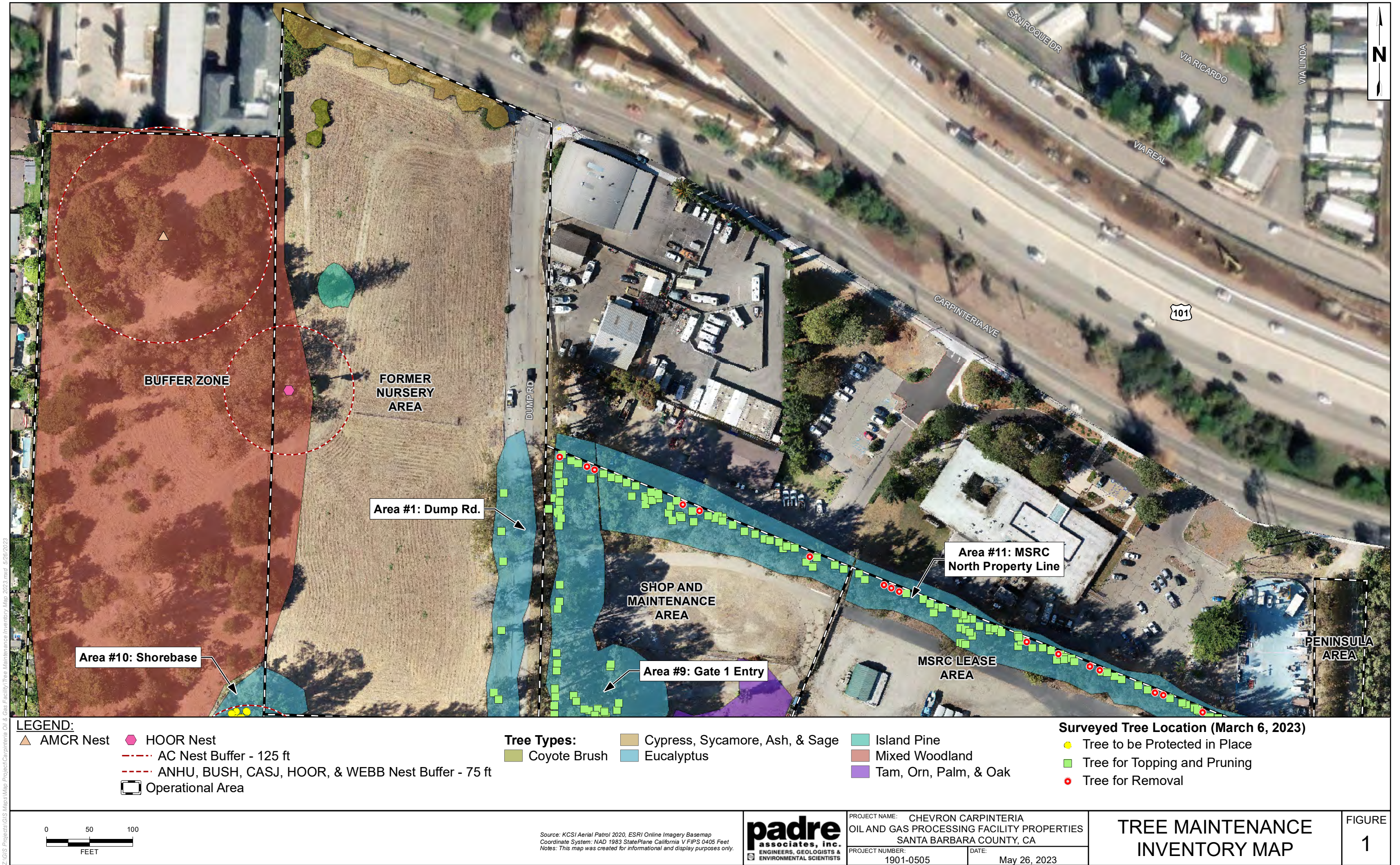
This Plan was prepared by Mr. Chris Dunn, a biologist with 24 years of professional experience, including over 11 years as an International Society of Arboriculture (ISA) Certified Arborist, with reference to professional recommendations and tree risk evaluations provided by Mr. Chris Newton, owner of Branch Out Tree Care and ISA Certified Arborist WE-7331A and Certified Tree Care Professional #03517. Land survey mapping of tree locations and quantities was provided by WM Surveys, Inc. Biological survey data was collected by Mr. Ryan Newkirk, and Mr. Ken Gilliland, Padre Associates, Inc. professional biologists with experience conducting nesting bird and other wildlife surveys, tree evaluations and scientific data collection.

June 1, 2023

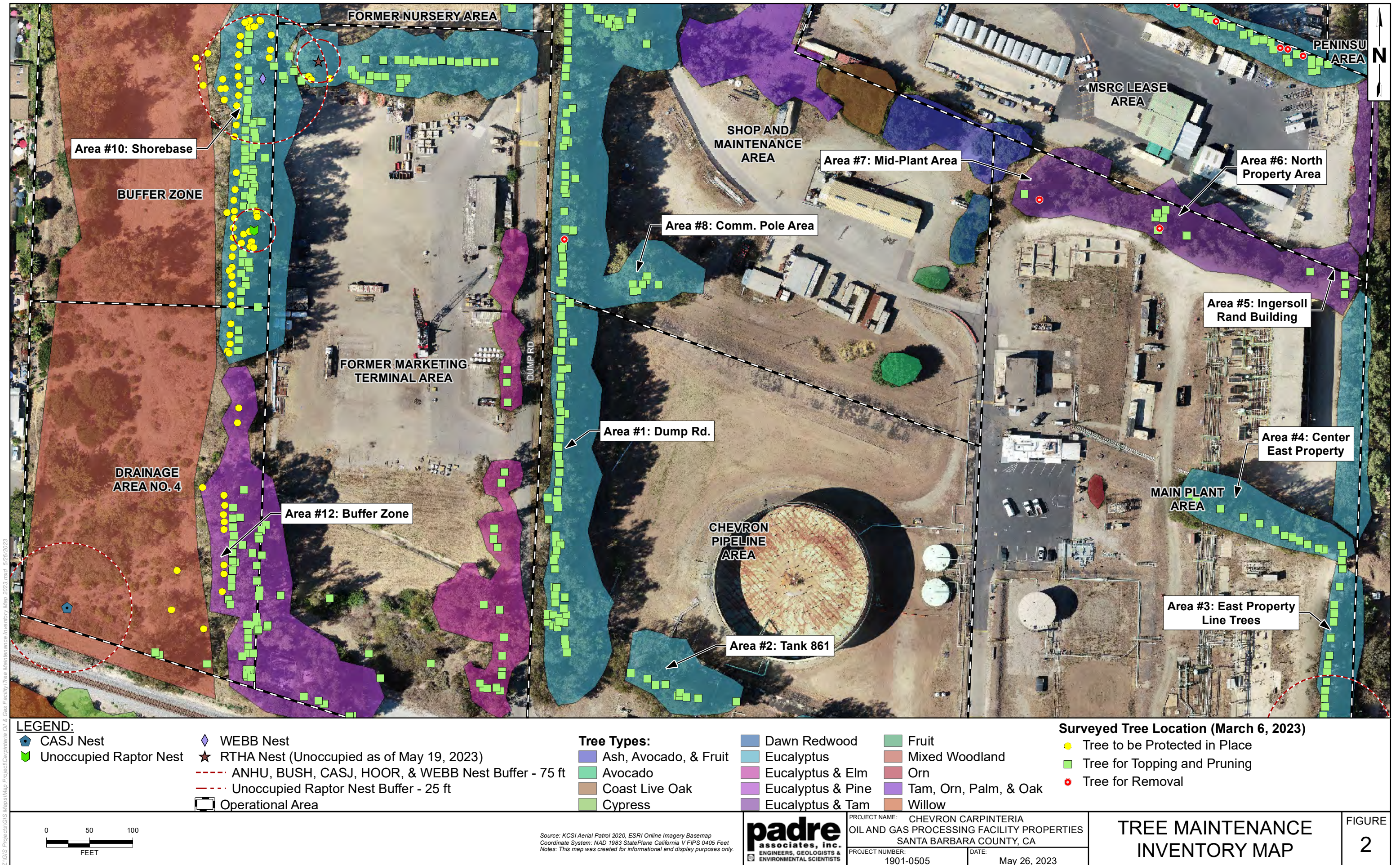
Chris Dunn  
Senior Project Manager/Biologist  
ISA Certified Arborist No. WE-9525A  
(805) 644-2220 ext. 412

## TREE MAINTENANCE INVENTORY MAP













**LEGEND:**

▲ ANHU Nest

◆ BUSH Nest

● LEGO Nest

--- ANHU, BUSH, CASJ, HOOR, & WEBB Nest Buffer - 75 ft

□ Operational Area

**Tree Types:**

Arroyo Willow Thicket

Cypress

Eucalyptus

Eucalyptus & Elm

Eucalyptus & Pine

Mixed Woodland

Sycamore

Willow

**Surveyed Tree Location (March 6, 2023)**

■ Tree for Topping and Pruning

0 50 100

FEET

Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.

**padre**  
associates, inc.  
ENGINEERS, GEOLOGISTS &  
ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CHEVRON CARPINTERIA  
OIL AND GAS PROCESSING FACILITY PROPERTIES  
SANTA BARBARA COUNTY, CA

PROJECT NUMBER: 1901-0505

DATE: May 26, 2023

**TREE MAINTENANCE  
INVENTORY MAP**

FIGURE  
3



## BIOLOGICAL SURVEY REPORT

CHEVRON BIOLOGICAL SURVEY AND HABITAT IMPACT REVIEW FORM

SURVEY INFORMATION	Prepared for: Mr. Chris Penza		Dates: 03/03/23 03/06/23 03/07/23		Times: 0830-1245 0730-1445 0730-1345	
	Prepared by: Ryan Newkirk					
	Field/Area: Carpinteria, CA		Lease/Property: Carp Oil & Gas Processing Facility properties		<input checked="" type="checkbox"/> Fee <input type="checkbox"/> Federal	
	Section/T/R(s): East and west of Dump Road		Weather: 45-56°F/0-5mph/mostly clear			
	Project Location and Description: 12 project areas within Carpinteria Oil and Gas Plant Property: Area #1: east side of Dump Rd., Area #2: south of T861, Area #3: east property line, Area #4: center east property line, Area #5: northeast of Ingersoll-Rand building, Area #6: south of MSRC office building, Area #7: south of Control Room, Area #8: north of Tank 861, Area #9: Gate 1 entry area, Area #10: Shorebase area, Area #11: MSRC north property line, Area #12: Buffer Zone area – Downed tree removal and live tree trimming to be conducted by Branch Out Tree Care on behalf of Chevron/Beacon West Energy Group LLC.					
		<b>Project Footprint Sq. ft. / acres</b>	<b>Undisturbed Habitat</b>	<b>Not Habitat or Significantly Disturbed</b>	<b>Total Calculated Impact</b>	
	Permanent	0	0	0	0	
	Temporary	45.5 acres	0 sq. ft	45.5 acres	45.5 acres	
<b>The conversion factor is 1 acre = 43,560 sq. ft. Use either acres or sq. ft.</b>						
SURVEY METHOD	<input type="checkbox"/> Pads or locations - Impact area plus 100' buffer with transects spaced at: _____ feet					
	<input type="checkbox"/> Linear projects - Centerline plus corridor to either side out to: _____					
	<input checked="" type="checkbox"/> Other - describe: Proposed project areas surveyed on foot and with 10x42 binoculars. Nearby trees and areas of opportunity surveyed within 100' buffer of impact areas. Focus on identifying nesting birds within or near the trees proposed for trimming or removal. Blue gum ( <i>Eucalyptus globulus</i> ) and athel tamarisk ( <i>Tamarix aphylla</i> ) proposed for trimming or removal throughout property were surveyed over 3 separate survey visits, moving from areas of high priority to areas of lower priority, as identified by Branch Out Tree Care. Immediate area surrounding trees within project areas surveyed on foot and with binoculars, while canopies were scanned with binoculars. Area around and within the fallen branches of one (1) recently downed <i>Eucalyptus globulus</i> within Area #6 surveyed extensively for the presence of sensitive species. Additionally, duff was repeatedly disturbed by hand to survey for the presence of fossorial reptiles.					
	<input type="checkbox"/> All sensitive burrows/dens were marked with: _____					
TOPOGRAPHY	<input checked="" type="checkbox"/> Flat Terrain <input type="checkbox"/> Rolling Hills <input type="checkbox"/> Floodplain <input type="checkbox"/> Steep Hills <input type="checkbox"/> Potential CDFW Streambed					
	<input type="checkbox"/> Potential ACOE Waters of the U.S. Comments (include elevation if known, and amount of existing disturbance): All areas surveyed occur between 37 and 62 feet in elevation (MSL). Tree trimming and removal locations are located throughout the facility, and all areas have undergone various temporary disturbances in the past including soil cleanup, weed abatement, dead tree felling, stormwater management, and vegetation restoration. The ongoing remediation of Tank 861, located ~150 ft. to the east of Dump Rd. and adjacent to several survey locations, was occurring during each survey date.					
VEGETATION OBSERVED AT PROJECT SITE	<input checked="" type="checkbox"/> Non-Native Grassland <input type="checkbox"/> Coastal Sage Scrub <input type="checkbox"/> Chaparral <input checked="" type="checkbox"/> Ruderal <input type="checkbox"/> Riparian (stream)					
	<input type="checkbox"/> Oak woodland		<input checked="" type="checkbox"/> Other: Eucalyptus, London plane, Monterey cypress, and coast live oak habitats observed within to the survey areas (see Figure 1 below).			
	Dominant shrub or tree layer (an "*" indicates a non-native species) - Common Name ( <i>Scientific Name</i> ): blue gum eucalyptus* ( <i>Eucalyptus globulus</i> ), Monterey cypress ( <i>Hesperocyparis macrocarpa</i> ), athel tamarisk ( <i>Tamarix aphylla</i> ), western sycamore ( <i>Platanus racemosa</i> ), London plane ( <i>Platanus x Acerifolia</i> ), longleaf wattle* ( <i>Acacia longifolia</i> ), coyote brush ( <i>Baccharis pilularis</i> ), tree tobacco* ( <i>Nicotiana glauca</i> ), and myoporum* ( <i>Myoporum laetum</i> ).					
	Dominant herb layer (an "*" indicates a non-native species) - Common Name ( <i>Scientific Name</i> ): wood sorrel* ( <i>Oxalis pes-caprae</i> ), cheeseweed* ( <i>Malva parviflora</i> ), California sagebrush ( <i>Artemisia californica</i> ), felt-leaf everlasting ( <i>Pseudognaphalium microcephalum</i> ), California bush sunflower ( <i>Encelia californica</i> ), lemonadeberry ( <i>Rhus integrifolia</i> ), prickly sow thistle* ( <i>Sonchus asper</i> ), white sweet clover* ( <i>Melilotus albus</i> ), English plantain* ( <i>Plantago lanceolata</i> ), curly dock* ( <i>Rumex crispus</i> ), common sow-thistle* ( <i>Sonchus oleraceus</i> ), Italian thistle ( <i>Carduus pycnocephalus</i> ), and onion-leaved asphodel* ( <i>Asphodelus fistulosus</i> ).					
	Sensitive	<input type="checkbox"/> None Observed		<input type="checkbox"/> Coast live oak		<input type="checkbox"/> Plummer's baccharis
	Plants:	<input type="checkbox"/> Mariposa lily sp.		<input type="checkbox"/> S. CA black walnut		<input checked="" type="checkbox"/> Other: (describe below)
Was survey performed at appropriate time for detection of sensitive annual plants? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						

	Plant Comments: Proposed impact areas are largely ruderal, with live and recently fallen blue gum eucalyptus ( <i>Eucalyptus globulus</i> ) and Monterey cypress ( <i>Hesperocyparis macrocarpa</i> ) making up much of the overstory. Ruderal herbaceous vegetation has colonized some of the understory, with large swaths of bare ground covered in eucalyptus duff and tree litter. A sparse mix of native and non-native vegetation surrounds the large eucalyptus windrows on either side of Dump Rd.		
WILDLIFE HABITAT AND/OR SIGN OBSERVED AT PROJECT SITE	<input type="checkbox"/> None Observed <input type="checkbox"/> Western Pond Turtle <input type="checkbox"/> Coast Patch-nosed Snake <input type="checkbox"/> Western Whiptail <input type="checkbox"/> Least Bell's Vireo <input type="checkbox"/> Two-striped Garter Snake <input type="checkbox"/> Raptors (nesting) <input type="checkbox"/> Legless Lizard <input type="checkbox"/> CA Gnatcatcher <input checked="" type="checkbox"/> Other (describe below)		
	Wildlife Comments: Special focus paid to presence or absence of nesting passerine birds and raptors, monarch butterfly aggregations, and reptiles. Species observed (an "*" indicates a non-native species): California scrub jay, red-tailed hawk, yellow-rumped warbler, mourning dove, Anna's hummingbird, American crow, bushtit, house finch, western gull, Eurasian starling, Allen's hummingbird, mallard, turkey vulture, house sparrow, lark sparrow, Eurasian collared dove, song sparrow, white-crowned sparrow, California towhee, snowy egret, Cassin's kingbird, house finch, acorn woodpecker, western bluebird, lesser goldfinch, western gull, black phoebe, band-tailed pigeon, American pipit, Say's phoebe, downy woodpecker, western kingbird, bushtit, northern flicker, rock dove, house wren, ruby-crowned kinglet, California ground squirrel, Audubon's cottontail, western fence lizard, red fox (den).		
SURVEY RESULTS	<input checked="" type="checkbox"/> The project <b>should not</b> result in direct impacts to threatened or endangered species provided that standard Chevron precautionary measures are implemented along with the specific directions listed below in the comments section.		
	<input type="checkbox"/> Additional survey and/or follow-up is required; Follow-up results completed by a Qualified Biologist must be attached prior to proceeding with project.		
	Were any modifications made to project as a result of this survey? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
	Survey Comments: Particular attention was paid to the presence of nesting avian species, monarch butterflies, and fossorial reptiles. Individual monarch butterflies were observed within and around the proposed work area, but no aggregations were observed. Three (3) active avian nests were documented during the survey: <ul style="list-style-type: none"> <li>- One (1) active Anna's hummingbird (<i>Calypte anna</i>) nest was observed ~10 feet up within a blue gum eucalyptus in the N-S windrow of Area #3. Nesting behavior observed included nest defense behavior and incubation, indicating the presence of eggs within the nest (see figure 1, photos below). Accordingly, I recommend the establishment of a 75-foot buffer around the nest, within which no work should occur while the nest is active.</li> <li>- One (1) active bushtit (<i>Psaltriparus minimus</i>) nest was observed ~6 feet up, also within a blue gum eucalyptus in the N-S windrow of Area #3, ~75 feet south of the Anna's hummingbird nest. Two adults were actively constructing the nest and nest defense behavior was also noted (see figure 1, photos below). Accordingly, I recommend the establishment of a 75-foot buffer around the nest, within which no work should occur while the nest is active.</li> <li>- One (1) active red-tailed hawk (<i>Buteo jamaicensis</i>) nest was observed ~100 feet up within the E-W windrow of Area #10. Nesting behavior included pair-bonding behavior and nest material deliveries from adults (see figure 1, photos below). Accordingly, I recommend the establishment of a 200-foot buffer around the nest, within which no work should occur, while the nest is active, and the tree supporting the nest should be left intact over the long-term.</li> </ul> Survey recommendations: <ul style="list-style-type: none"> <li>- Follow the buffer recommendations as highlighted above. Passage through these buffers by personnel on foot and vehicles is acceptable, but no other work should occur within the buffer (i.e. parking, staging, vegetation removal, etc.) while the nest is active.</li> <li>- Limit the removal of duff (fallen leaves and organic matter) beneath eucalyptus to keep their shallow root and mycorrhizal systems intact and avoid potential impacts to fossorial (burrowing) reptiles (e.g., legless lizard and ring-neck snake). If fossorial reptiles are encountered, crews should immediately contact a qualified biologist to provide rapid and accurate conservation recommendations.</li> <li>- Should aggregations of monarch butterflies be observed within any trees due to be trimmed or removed, work should be stopped and crews should contact a qualified biologist to provide conservation recommendations.</li> </ul>		
FOLLOW-UP SURVEY	Target Species/Issues		Timeframe:
	Surveyor Name:		Company: Padre Associates, Inc.      Date:
FORM DISTRIBUTION:	<input type="checkbox"/>	<input checked="" type="checkbox"/> HES SJVBU Staff - 9525 Camino Media Kacy Twist (KacyOMalley@chevron.com)	<input checked="" type="checkbox"/> Other: Mr. James Tolar, Kevin Duganne





**Figure 1.** Project areas surveyed 3/3/23, 3/6/23, and 3/7/23.





**Photo 1.** View to the southeast, showing Area #1 eucalyptus windrow along Dump Rd. March 3, 2023



**Photo 2.** View to the northeast of Area #2, south of Tank 861. Visible are several recently "topped" blue gum eucalyptus. March 3, 2023



**Photo 3.** View to the southeast of Area #3 eucalyptus windrow running north-south. March 7, 2023



**Photo 4.** View to the northwest of Area #4, showing dense stand of eucalyptus. March 7, 2023





**Photo 5.** View to the north of Area #5, showing trees in proximity to high voltage cables. March 7, 2023



**Photo 6.** View to the northeast of Area #6. Trees are located just south of MSRC office building. March 7, 2023



**Photo 7.** View to the northwest of Area #7, showing large eucalyptus with tamarisk proposed for removal leaning onto it. March 3, 2023



**Photo 8.** View to the east of Area #8, showing dense stand of eucalyptus surrounding communications pole. March 6, 2023





**Photo 9.** View to the northwest of Area #9, showing stand of eucalyptus near the Gate 1 entryway. March 6, 2023



**Photo 10.** View to north of east-west windrow within Shorebase area, showing very large eucalyptus. An active red-tailed hawk nest (barely visible) is indicated by a red arrow. March 6, 2023



**Photo 11.** View to northwest of Area #11, showing east-west eucalyptus windrow north of the MSRC yard. March 6, 2023



**Photo 12.** View to the south of a section of Area #12, showing buffer zone area with large eucalyptus. March 7, 2023





**Photo 13.** View of Anna's hummingbird adult incubating on a nest within Area #3. March 7, 2023



**Photo 14.** View of bushtit nest located within Area #3. March 7, 2023



**Photo 15.** View to the east of pink flagging (highlighted by a red circle) indicating location of Anna's hummingbird nest within Area #3. March 7, 2023



**Photo 16.** Binocular view of red-tailed hawk nest located ~100 feet up within a eucalyptus in Area #10. March 3, 2023

## **Appendix C-4**

### **Coastal Wetlands Delineation Report**



# **COASTAL WETLANDS DELINEATION REPORT**

## **DECOMMISSIONING AND REMEDIATION OF THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES**

### **CARPINTERIA, SANTA BARBARA COUNTY**

Project No. 2002-5211

**Prepared for:**

Chevron West Coast Decommissioning Program  
3916 State Street, Suite 200  
Santa Barbara, CA 93105

**Prepared by:**

Padre Associates, Inc.  
1861 Knoll Drive  
Ventura, California 93003

**JUNE 2021  
REVISED DECEMBER 2021**



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## ATTACHMENTS

- A Carpinteria Oil and Gas Processing Facility Plant List
- B Wetland Determination Data Forms

## **1.0 INTRODUCTION**

This Coastal Wetlands Delineation Report has been prepared by Padre Associates, Inc. (Padre) on behalf of Chevron USA (Chevron). The term “coastal wetlands” is used in this Report to refer to wetlands as defined in the California Coastal Act and California Coastal Commission policies. This Report has been developed to document coastal wetlands in areas that may be affected by implementation of the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project located in the eastern portion of the City of Carpinteria, California, between U.S. Highway 101 and the Pacific Ocean (see Onshore Facilities Map). This Report has been written in support of the Project’s application for a Conditional Use Permit/Coastal Development Permit that is being filed with the City of Carpinteria and County of Santa Barbara.

### **1.1 PROJECT SUMMARY**

The Project’s purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of any contaminated soils at the onshore Carpinteria Oil and Gas Processing Facility to accommodate the Project Site’s potential future redevelopment.

### **1.2 BACKGROUND**

The Project site is located within an area that has been historically utilized for agricultural production and more recently for oil and gas development support activities. Historical agricultural production activities documented at the Project site from the 1920’s through 1959 included dry farming, row crop production, orchards (fruit trees and nuts), and commercial flower production (plant nursery). The Carpinteria Oil and Gas Processing Facility has been in operation since 1959 and historically supported offshore Platforms Hazel, Hilda, Hope and Heidi (Carpinteria Field), and Grace and Gail (Santa Clara Field and Sockeye Field). Abandonment of the wells and decommissioning/removal of offshore Platforms Hazel, Hilda, Hope, and Heidi (4H Platforms) from the Santa Barbara Channel were completed in 1996. Although Platform Grace ceased production in 1998, the Plant and Tank 861 continued to receive oil and gas from Platform Gail until approximately 2017.





## 2.0 REGULATORY SETTING

The term wetland is used to describe a particular landscape characterized by inundation or saturation with water for a sufficient duration to result in the alteration of physical, chemical, and biological elements relative to the surrounding landscape. Wetland areas are characterized by prevalence of vegetation typically adapted for life in saturated soil conditions.

### 2.1 FEDERAL REGULATIONS

Federal regulatory agencies with jurisdiction over wetlands include the U.S. Army Corps of Engineers (Corps) with authority to enforce two Federal regulations involving wetland preservation; the Clean Water Act (Section 404), which regulates the disposal of dredge and fill materials in waters of the U.S., and the Rivers and Harbors Act of 1899 (Section 10), which regulates diking, filling, and placement of structures in navigable waterways.

Under Corps and U.S. Environmental Protection Agency regulations, wetlands are defined as:

*"those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."*

### 2.2 STATE OF CALIFORNIA REGULATIONS

State regulatory agencies with jurisdiction over wetlands include the State Water Quality Control Board that enforces compliance with the Federal Clean Water Act (Section 401) regulating water quality and the California Coastal Commission (CCC), which regulates development within the coastal zone as stipulated in the California Coastal Act (Sections 30230, 30231, 30233, and 30240 apply to preservation and protection of wetlands).

The Coastal Commission's regulations establish a "one parameter definition" that only requires evidence of a single parameter to establish coastal wetland conditions:

*Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats. (14 CCR Section 13577).*

The Coastal Commission's regulations provide general decision rules for establishing the upland boundary of coastal wetlands:

- The boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic or xerophytic cover.

- The boundary between soil that is predominantly hydric and soil that is predominantly nonhydric; or
- In the case of wetlands without vegetation or soils, the boundary between land that is flooded or saturated at some time during years of normal precipitation, and land that is not (14 CCR Section 13577).

## **2.3 CITY OF CARPINTERIA**

The City uses the Coastal Act (Section 30121) definition of wetlands:

*"Wetland" means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.*

## **3.0 DESCRIPTION OF SURFACE WATERS**

Regional drainage features (such as Carpinteria Creek or its tributaries) do not occur within or traverse the Project site. On-site drainage features handle local storm run-off only, which is highly subdivided by berms used to contain potential oil spills. Storm run-off from the western portion of the Project site is directed along the east side of Dump Road into a 36-inch diameter above-ground pipe that traverses the Former Marketing Terminal Area and the Drainage No. 4 Area to the Railroad Ditch which runs along the north side of the Union Pacific Railroad embankment. The Railroad Ditch extends from the Project site approximately 750 feet to the west where it flows under the Union Pacific Railroad tracks in a box culvert and disperses over the bluff area.

## **4.0 FIELD METHODS**

Field methods were taken from the Arid West Supplement to the Corps of Engineers Wetland Delineation Manual.

### **4.1 SURVEY AREA**

The survey area was selected to encompass all operational areas (see Figure W-1) that may be affected by decommissioning activities including:

- Drainage No. 4
- Buffer Zone
- Former Marketing Terminal Area
- Former Nursery Area
- Chevron Pipeline Area
- Shop and Maintenance Area
- MSRC Lease Area
- Main Plant Area
- Pipeline Bluff Crossing Area



- Pier Parking Lot
- Former Sandblast Area

## **4.2 HYDROPHYTIC VEGETATION**

Vegetation of the survey area was assessed in coordination with preparation of the Biological Resources Study and in consultation with Padre Associates biologists that have extensive knowledge of the biological resources of the site. A plant list for all onshore facilities is provided as Attachment A and represents a compilation of the results of botanical surveys conducted over the past 15 years. All areas supporting hydrophytes were inspected and sampled when needed to verify hydrophytic status. The location of each sample point is provided on Figure W-1.

The dominance of hydrophytic vegetation was determined at each sample point, dominant plant species within each stratum (tree, sapling/shrub, herbaceous, and woody vine) at the sample point location were identified using The Jepson Manual (second edition). The hydrophytic indicator status of the species was determined in accordance with the 2018 National Wetland Plant List, Arid West Region as facultative (FAC), facultative-wetland (FACW) or obligate (OBL) wetland species. The vegetation was then analyzed using the dominance test to determine if greater than 50 percent of the dominant species were hydrophytic and the prevalence index calculation to determine if the prevalence index was less than or equal to 3.0. Wetland Determination Data Forms are provided in Attachment B for each sample point.

## **4.3 WETLAND HYDROLOGY**

Wetland hydrology was examined in areas not already considered coastal wetlands based on hydrophytic vegetation. Hydrologic characteristics of the sample points were evaluated by identifying evidence of inundation, and the presence of surface water, soil saturation, sediment deposits/sorting, salt crusts, drift deposits and local drainage patterns.

## **4.4 HYDRIC SOILS**

Soil information (including excavation of soil pits) was collected where needed to determine the presence of hydric soil, primarily in areas supporting hydrophytic vegetation that did not meet the dominance or prevalence tests (see Section 3.2).

# **5.0 COASTAL WETLANDS DELINEATION RESULTS**

## **5.1 HYDROPHYTIC VEGETATION**

Hydrophytic plant species found within the survey area are listed in Table 1. Most sampling points that met either the dominance or prevalence test for hydrophytic vegetation supported arroyo willow (sample points 5, 7, 10, 10A, 13, 15, 16, 17, 18, 19) or brass buttons and English plantain (sample points 1 and 2). However, sample point 20 represents pure stands of quail bush (FAC) in the Pier Parking Lot area. Areas dominated by quail bush but also supporting non-hydrophytic plant species (such as *Encelia californica* or *Rhus integrifolia*) failed the dominance or prevalence tests and are not considered hydrophytic vegetation.

**Table 1. Hydrophytic Plant Species of the Survey Area**

Common Name	Scientific Name	Hydrophytic Status*	Sample Points Where Found
Curly dock	<i>Rumex crispus</i>	FAC	1,2
Brass buttons	<i>Cotula coronopifolia</i>	OBL	1,2
English plantain	<i>Plantago lanceolata</i>	FAC	1,2,5,8
Tall flat sedge	<i>Cyperus eragrostis</i>	FACW	1
Boconne's sand-spurrey	<i>Spergularia bocconi</i>	FACW	1
Western sycamore	<i>Platanus racemosa</i>	FAC	3,12
Arroyo willow	<i>Salix lasiolepis</i>	FACW	4,5,6,7,10,10A,13,15,16,17,18,19
Mulefat	<i>Baccharis salicifolia</i>	FAC	9,11
California bulrush	<i>Schoenoplectus californicus</i>	OBL	11
California wild rose	<i>Rosa californica</i>	FAC	12,13
California blackberry	<i>Rubus ursinus</i>	FAC	12,13
Spiny rush	<i>Juncus acutus</i>	FACW	14
Quail bush	<i>Atriplex lentiformis</i>	FAC	20

\*Listed as OBL (obligate wetland: almost always occurs in wetlands, >99% probability); FACW (facultative-wetland: usually occurs in wetlands, 67-99% probability); FAC (facultative: equally likely to occur in wetlands or non-wetlands, 34-66% probability)

## 5.2 WETLAND HYDROLOGY

Wetland hydrology indicators were found only in the following sample points:

- Tank containment area within the Chevron Pipeline Area (sample points 1 and 2, sediment deposits)
- Patch of California bulrush at terminus of railroad ditch (sample point 11, soil saturation and drainage patterns)

These two areas were considered coastal wetlands based on hydrophytic vegetation, such that wetland hydrology did not result in additional areas being included as coastal wetlands.

### 5.3 HYDRIC SOILS

Hydric soil indicators were not found during the coastal wetland delineation. However, sampling was mostly limited to areas not meeting other wetland criteria. It is expected that sample point 11 supports hydric soils due to seasonal periods of soil saturation.

### 5.4 COASTAL WETLANDS DELINEATION RESULTS

The coastal wetlands delineation results at each of the sample points is summarized in Table 2. Areas meeting the coastal wetlands definition (sum of all areas exhibiting dominance by hydrophytic vegetation, indicators of wetland hydrology and hydric soils) are mapped on Figure W-1) and the area of each wetland polygon is quantified in Table 3. A total of 1.67 acres of coastal wetlands were found within the survey area.

**Table 2. Wetlands Sample Point Data Summary**

Sample Point no.	Site Area	Hydrophytic Vegetation Criterion met?	Hydric Soils Criterion met?	Wetland Hydrology Criterion met?	Coastal Wetland?
1	Chevron Pipeline Area	Yes	No	Yes	Yes
2	Chevron Pipeline Area	Yes	No, based on soils data collected at nearby sample point 1	No	Yes
3	Drainage No. 4	No	No, based on soils data collected at nearby sample point 5	No	No
4	Drainage No. 4	No	No, based on soils data collected at nearby sample point 5	No	No
5	Drainage No. 4	Yes	No	No	Yes
6	Drainage No. 4	No	No	No	No
7	Drainage No. 4	Yes	No, based on soils data collected at nearby sample point 6	No	Yes
8	Drainage No. 4	No	No, based on soils data collected at nearby sample point 6	No	No
9	Drainage No. 4	No	No	No	No



Sample Point no.	Site Area	Hydrophytic Vegetation Criterion met?	Hydric Soils Criterion met?	Wetland Hydrology Criterion met?	Coastal Wetland?
10	Former Sandblast Area	Yes	No data	No	Yes
10A	Former Sandblast Area	Yes	No data	No	Yes
11	Tarpits Park/Bluffs	Yes	No data	Yes	Yes
12	Tarpits Park/Bluffs	Yes	No data	No	Yes
13	Tarpits Park/Bluffs	Yes	No data	No	Yes
14	Tarpits Park/Bluffs	Yes	No data	No	Yes
15	Tarpits Park/Bluffs	No	No data	No	No
16	Tarpits Park/Bluffs	Yes	No data	No	Yes
17	Tarpits Park/Bluffs	Yes	No data	No	Yes
18	Tarpits Park/Bluffs	Yes	No data	No	Yes
19	Tarpits Park/Bluffs	Yes	No data	No	Yes
20	Pier Parking Lot	Yes	No data	No	Yes

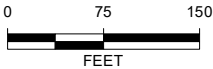
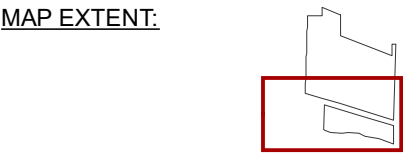
**Table 3. Wetlands Delineation Results**

<b>Wetland no.</b>	<b>Location</b>	<b>Area (acres)</b>
W-1	Chevron Pipeline Area	0.17
W-2	Drainage No. 4 Area	0.02
W-3	Drainage No. 4 Area	0.03
W-4	Former Sandblast Area	0.08
W-5	Pier Parking Lot	0.65
W-6	Pier Parking Lot (in part)	0.13
W-7	Pier Parking Lot	0.11
W-8	Tarpits Park/Bluffs	0.05
W-9	Tarpits Park/Bluffs	0.11
W-10	Tarpits Park/Bluffs	0.08
W-11	Tarpits Park/Bluffs	0.03
W-12	Tarpits Park/Bluffs	0.07
W-13	Tarpits Park/Bluffs	0.10
W-14	Tarpits Park/Bluffs	0.04
<b>Total</b>		<b>1.67</b>





**LEGEND:**  
• Wetland Sampling Point    Coastal Wetland    Operational Area    Project Boundary



Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.

**padre**  
associates, inc.  
ENGINEERS, GEOLOGISTS &  
ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CHEVRON CARPINTERIA OIL AND GAS PROCESSING FACILITY PROPERTIES SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 2002-5211	DATE: June 2021

**COASTAL WETLAND MAP**

**FIGURE  
W-1**

Z:\GIS\Projects\GIS Maps\Map Project\Carpinteria Oil & Gas Facility\Terrestrial Biological Resources Study\Coastal Wetland Map.mxd 6/8/2021



## **ATTACHMENT A**

### **CARPINTERIA OIL AND GAS PROCESSING FACILITY PLANT LIST**

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**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITY - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot and/or Pipeline Landing
<b>CUPRESSACEAE (Cypress Family)</b>												
Monterey cypress	<i>Hesperocyparis macrocarpa</i>	T	NL	I		X	X	X		X	X	X
Dawn redwood	<i>Metasequoia glyptostroboides</i>	T	NL	I						X		
<b>PINACEAE (Pine Family)</b>												
Aleppo pine	<i>Pinus halepensis</i>	T	NL	I			X				X	
Monterey pine	<i>Pinus radiata</i>	T	NL	I				X	X	X		
<b>TAXODIACEAE (Bald Cypress Family)</b>												
Redwood	<i>Sequoia sempervirens</i>	T	NL	I			X					
<b>ARAUCARIACEAE (Araucaria Family)</b>												
Norfolk island pine	<i>Araucaria excelsa</i>	T	NL	I					X			
<b>ADOXACEAE (Muskroot Family)</b>												
Blue elderberry	<i>Sambucus nigra ssp. caerulea</i>	T	FACU	N				X	X			X
<b>AIZOACEAE (Fig-Marigold Family)</b>												
Crystalline iceplant	<i>Mesembryanthemum crystallinum</i>	H	FACU	I	Moderate						X	
Baby sun rose	<i>Mesembryanthemum cordifolium</i>	V	NL	I			X					
Freeway iceplant	<i>Carpobrotus edulis</i>	S	NL	I	High					X	X	X
<b>ANACARDIACEAE (Sumac or Cashew Family)</b>												
Laurel sumac	<i>Malosma laurina</i>	S	NL	N		X						
Lemonade berry	<i>Rhus integrifolia</i>	S	NL	N		X		X	X		X	X
Brazilian pepper tree	<i>Schinus terebinthifolius</i>	T	NL	I	Moderate		X	X				
<b>APIACEAE (Carrot Family)</b>												
Poison hemlock	<i>Conium maculatum</i>	H	FACW	I	Moderate	X		X				
Fennel	<i>Foeniculum vulgare</i>	H	NL	I	Moderate	X						X
<b>APOCYNACEAE (Dogbane Family)</b>												
Oleander	<i>Nerium oleander</i>	S	NL	I			X	X				
<b>ARALIACEAE (Ginseng Family)</b>												
English ivy	<i>Hedera helix</i>	V	NL	I	High		X	X				
<b>ASPARAGACEAE (Asparagus Family)</b>												
Century plant	<i>Agave americana</i>	S	UPL	I						X		
Dracaena	<i>Dracaena sp.</i>	S	NL	I						X		
<b>ASPHODELACEAE (Asphodel Family)</b>												
Aloe	<i>Aloe sp.</i>	S	NL	I						X		
Onionweed	<i>Asphodelus fistulosus</i>	H	NL	I	Moderate	X				X		X
<b>ASTERACEAE (Sunflower Family)</b>												
Western ragweed	<i>Ambrosia psilostachya</i>	H	FACU	N		X		X	X	X	X	X
California sagebrush	<i>Artemisia californica</i>	H	NL	N		X			X		X	X
Mugwort	<i>Artemisia douglasiana</i>	H	FAC	N		X					X	
Coyote brush	<i>Baccharis pilularis</i>	S	NL	N		X		X	X	X	X	X
Mule fat	<i>Baccharis salicifolia</i>	S	FAC	N				X			X	
Italian thistle	<i>Carduus pycnocephalus</i>	H	NL	I	Moderate		X	X				
Tocalote	<i>Centaurea melitensis</i>	H	NL	I	Moderate	X						X
Bull thistle	<i>Cirsium vulgare</i>	H	FACU	I	Moderate							X
Brass buttons	<i>Cotula coronopifolia</i>	H	OBL	I	Limited					X		
Artichoke	<i>Cynara scolymus</i>	H	NL	I				X				
German Ivy	<i>Delairea odorata</i>	V	NI	I	High	X		X				
California bush sunflower	<i>Encelia californica</i>	S	NL	N		X				X	X	X
Horseweed	<i>Erigeron canadensis</i>	H	FACU	N						X		
Crown daisy	<i>Glebionis coronaria</i>	H	NL	I	Moderate					X		
Bristly ox-tongue	<i>Helminthotheca echioides</i>	H	FAC	I	Limited		X	X	X	X		
Telegraph weed	<i>Heterotheca grandiflora</i>	H	NL	N						X		X

**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITY - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot and/or Pipeline Landing
Rough cat's-ear	<i>Hypochaeris radicata</i>	H	NL	I	Moderate			X	X			X
Coastal golden-bush	<i>Isocoma menziesii</i>	S	NL	N		X				X		X
Prickly lettuce	<i>Lactuca serriola</i>	H	FACU	I		X		X		X		
Narrowleaf cottonrose	<i>Logfia gallica</i>	H	NL	I						X		
Green everlasting	<i>Pseudognaphalium californicum</i>	H	NL	N		X				X		
Cudweed	<i>Pseudognaphalium microcephalum</i>	H	FACU	N		X				X		
Cotton-batting plant	<i>Pseudognaphalium stramineum</i>	H	FAC	N						X		
Milk thistle	<i>Silybum marianum</i>	H	NL	I	Limited					X		
Prickly sow thistle	<i>Sonchus asper</i>	H	FAC	I		X						
Common sow thistle	<i>Sonchus oleraceus</i>	H	UPL	I			X	X		X		X
<b>BIGNONIACEAE (Bignonia Family)</b>												
Trumpet creeper	<i>Campsis radicans</i>	V	NL	I				X				
Cape honeysuckle	<i>Tecoma capensis</i>	S	NL	I				X	X			
<b>BORAGINACEAE (Borage Family)</b>												
Large-flowered popcorn flower	<i>Cryptantha intermedia</i>	H	NL	N						X		
Pride of Madeira	<i>Echium candicans</i>	S	NL	I	Limited			X		X		
Branching phacelia	<i>Phacelia ramosissima</i>	H	FACU	N						X	X	X
<b>BRASSICACEAE (Mustard Family)</b>												
Shepherd's purse	<i>Capsella bursa-pastoris</i>	H	FACU	I						X		
Summer mustard	<i>Hirschfeldia incana</i>	H	NL	I	Moderate	X	X	X	X	X	X	X
Wild radish	<i>Raphanus sativus</i>	H	NL	I	Limited		X	X	X	X		
London rocket	<i>Sisymbrium irio</i>	H	NL	I	Limited					X		
<b>CACTACEAE (Cactus Family)</b>												
Mission prickly-pear	<i>Opuntia ficus-indica</i>	S	NL	I						X		
<b>CARYOPHYLLACEAE (Pink Family)</b>												
Sand-spurrey	<i>Spergularia bocconi</i>	H	FACW	I						X		
Four-leaved all-seed	<i>Polycarpon tetraphyllum</i>	H	NL	I			X					
<b>CHENOPODIACEAE (Goosefoot Family)</b>												
Big saltbush, quailbush	<i>Atriplex lentiformis</i>	S	FAC	N		X			X		X	X
Five-hook bassia	<i>Bassia hyssopifolia</i>	S	FACU	I	Limited		X		X	X		
Pitseed goosefoot	<i>Chenopodium berlandieri</i>	H	NL	N						X		
Nettle leaf goosefoot	<i>Chenopodium murale</i>	H	FACU	I						X		
Russian thistle	<i>Salsola tragus</i>	H	FACU	I	Limited				X	X		
<b>CONVOLVULACEAE (Morning-Glory Family)</b>												
Chaparral morning-glory	<i>Calystegia macrostegia ssp. intermedia</i>	V	NL	N		X	X	X				X
Bindweed	<i>Convolvulus arvensis</i>	H	NL	I			X			X		
<b>CRASSULACEAE (Stonecrop Family)</b>												
Pygmy weed	<i>Crassula connata</i>	H	FAC	N						X		
Jade plant	<i>Crassula ovata</i>	H	NL	I						X		
<b>EUPHORBIACEAE (Spurge Family)</b>												
Spotted spurge	<i>Chamaesyce maculata</i>	H	FACU	I			X			X		
Caper spurge	<i>Euphorbia lathyris</i>	H	NL	I			X					
Petty spurge	<i>Euphorbia pepus</i>	H	NL	I			X	X		X		
Carnation spurge	<i>Euphorbia terracina</i>	H	NL	N	Limited				X	X	X	
Castor bean	<i>Ricinus communis</i>	H	FACU	I	Limited		X	X	X		X	X
<b>FABACEAE (Legume Family)</b>												
Sydney golden wattle	<i>Acacia longifolia</i>	T	NL	I	Watch				X	X		
Strigose lotus	<i>Acmispon strigosus</i>	H	NL	N						X		
Miniature lupine	<i>Lupinus bicolor</i>	H	NL	N						X		



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**CARPINTERIA OIL AND GAS PROCESSING FACILITY - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot and/or Pipeline Landing
Succulent lupine	<i>Lupinus succulentus</i>	H	NL	N					X			
Collared annual lupine	<i>Lupinus truncatus</i>	H	NL	N						X		
California bur-clover	<i>Medicago polymorpha</i>	H	NL	I	Limited			X		X		
Yellow sweet clover	<i>Melilotus indicus</i>	H	FACU	I		X			X	X		X
Spring vetch	<i>Vicia sativa</i>	H	FACU	I				X	X		X	
<b>FAGACEAE (Oak Family)</b>												
Coast live oak	<i>Quercus agrifolia</i>	T	NL	N		X	X	X	X	X		X
Scrub oak	<i>Quercus berberidifolia</i>	T	NL	N								X
<b>GERANIACEAE (Geranium Family)</b>												
Red-stemmed filaree	<i>Erodium cicutarium</i>	H	NL	I	Limited	X	X		X	X	X	
White-stemmed filaree	<i>Erodium moschatum</i>	H	NL	I						X		
Cut-leaf geranium	<i>Geranium dissectum</i>	H	NL	I	Limited			X		X		
Geranium	<i>Pelargonium sp.</i>	H	NL	I				X				
<b>GROSSULARIACEAE (Gooseberry Family)</b>												
Fuchsia-flowered gooseberry	<i>Ribes speciosum</i>	S	NL	N					X			
<b>LAMIACEAE (Mint Family)</b>												
Horehound	<i>Marrubium vulgare</i>	H	FACU	I	Limited	X				X		
Rosemary	<i>Rosmarinus officianalis</i>	S	NL	I			X					
Black sage	<i>Salvia mellifera</i>	S	NL	N					X		X	
Purple sage	<i>Salvia leucophylla</i>	S	NL	N		X		X			X	X
<b>LAURACEAE (Laurel Family)</b>												
Avocado	<i>Persea americana</i>	T	NL	I						X		
<b>MAGNOLIACEAE (Magnolia Family)</b>												
Southern magnolia	<i>Magnolia grandiflora</i>	T	NL	I						X		
<b>MALVACEAE (Mallow Family)</b>												
Bull mallow	<i>Malva nicaeensis</i>	H	NL	I			X	X	X	X		
Cheeseweed	<i>Malva parviflora</i>	H	NL	I				X	X	X	X	
<b>MYOPORACEAE (Myoporum Family)</b>												
Myoporum	<i>Myoporum laetum</i>	T	NL	I	Moderate			X	X	X		
<b>MYRTACEAE (Myrtle Family)</b>												
Blue gum	<i>Eucalyptus globulus</i>	T	NL	I	Moderate			X	X	X	X	
Scarlet gum	<i>Eucalyptus ficifolia</i>	T	NL	I				X				
<b>NYCTAGINACEAE (Four O'Clock Family)</b>												
Bougainvillea	<i>Bougainvillea spectabilis</i>	S	NL	I				X	X	X		
<b>OLEACEAE (Olive Family)</b>												
Oregon ash	<i>Fraxinus latifolia</i>	T	FACW	I				X		X		
Olive	<i>Olea europaea</i>	T	NL	I	Limited			X				
<b>ONAGRACEAE (Evening Primrose Family)</b>												
Small evening primrose	<i>Camissoniopsis micrantha</i>	H	NL	N						X		X
<b>OXALIDACEAE (Oxalis Family)</b>												
Creeping wood sorrel	<i>Oxalis corniculata</i>	H	FACU	I		X	X					X
Bermuda buttercup	<i>Oxalis pes-capre</i>	H	NL	I	Moderate		X	X	X	X	X	X
<b>PAPAVERACEAE (Poppy Family)</b>												
California poppy	<i>Eschscholzia californica</i>	H	NL	N					X	X		
<b>PITTOSPORACEAE (Pittosporum Family)</b>												
Victorian box	<i>Pittosporum undulatum</i>	T	NL	I			X	X		X		
<b>PLANTAGINACEAE (Plantain Family)</b>												
English plantain	<i>Plantago lanceolata</i>	H	FAC	I	Limited	X		X	X	X	X	
Common plantain	<i>Plantago major</i>	H	FAC	I				X				
<b>PLATANACEAE (Sycamore Family)</b>												

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**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot and/or Pipeline Landing
Western sycamore	<i>Plantanus racemosa</i>	T	FAC	N		X		X		X	X	X
<b>POLYGONACEAE (Buckwheat Family)</b>												
California buckwheat	<i>Eriogonum fasciculatum</i>	S	NL	N								X
Seacliff buckwheat	<i>Eriogonum parvifolium</i>	S	NL	N							X	X
Common knotweed	<i>Polygonum aviculare ssp. depressum</i>	H	FAC	I				X				
Curly dock	<i>Rumex crispus</i>	H	FAC	I	Limited		X	X	X	X	X	
<b>MYRSINACEAE (Myrsine Family)</b>												
Scarlet pimpernel	<i>Anagallis arvensis</i>	H	FAC	I		X	X			X		X
<b>RANUNCULACEAE (Buttercup Family)</b>												
Virgin's bower	<i>Clematis ligusticifolia</i>	V	FAC	N			X			X		
<b>ROSACEAE (Rose Family)</b>												
California rose	<i>Rosa californica</i>	S	FAC	N							X	
California blackberry	<i>Rubus ursinus</i>	PV	FAC	N							X	
Cotoneaster	<i>Cotoneaster pannosa</i>	S	NL	I	Moderate			X		X		
Toyon	<i>Heteromeles arbutifolia</i>	S	NL	N				X	X		X	
Peach	<i>Prunus persica</i>	S	NL	I			X	X		X		
Firethorn	<i>Pyracantha koidzumii</i>	S	NL	I				X				
Blackberry	<i>Rubus pensilvanicus</i>	V	NL	I			X	X				
<b>RUBIACEAE (Madder Family)</b>												
Common bedstraw	<i>Galium aparine</i>	H	FACU	N						X		
<b>SALICACEAE (Willow Family)</b>												
Arroyo willow	<i>Salix lasiolepis</i>	T	FACW	N		X	X	X		X		X
<b>SAURURACEAE (Lizards-tail Family)</b>												
Yerba mansa	<i>Anemopsis californica</i>	H	OBL	N							X	
<b>SOLANACEAE (Nightshade Family)</b>												
Tree tobacco	<i>Nicotiana glauca</i>	S	FAC	I	Moderate					X		X
Nightshade	<i>Solanum douglasii</i>	H	FAC	N			X	X				
Black nightshade	<i>Solanum nigrum</i>	H	FACU	I		X						
Purple nightshade	<i>Solanum xanti</i>	S	NL	N								X
<b>TAMARICACEAE (Tamarisk Family)</b>												
Athel tamarisk	<i>Tamarix aphylla</i>	T	FAC	I	Limited					X		
<b>TROPAEOLACEAE (Nasturtium Family)</b>												
Garden nasturtium	<i>Tropaeolum majus</i>	H	NL	I			X	X	X			
<b>ULMACEAE (Elm family)</b>												
Chinese elm	<i>Ulmus parvifolia</i>	T	UPL	I					X			
<b>URTICACEAE (Nettle Family)</b>												
Dwarf nettle	<i>Urtica urens</i>	H	NL	I						X		
<b>VERBENACEAE (Vervain Family)</b>												
Verbena	<i>Verbena lasiostachys var. scabrida</i>	H	FAC	N		X						X
<b>ARECACEAE (Palm Family)</b>												
Canary Island palm	<i>Phoenix canariensis</i>	T	NL	I	Limited			X				
Mexican fan palm	<i>Washingtonia robusta</i>	T	NL	I	Moderate				X			
<b>CYPERACEAE (Sedge Family)</b>												
Tall cyperus	<i>Cyperus eragrostis</i>	H	FACW	N			X	X		X		
California bulrush	<i>Scheonoplectus californicus</i>	H	OBL	N							X	
<b>JUNCACEAE (Rush Family)</b>												
Spiny rush	<i>Juncus acutus ssp. leopoldii</i>	H	FACW	N							X	
<b>POACEAE (Grass Family)</b>												
Slender wild oat	<i>Avena barbata</i>	G	NL	I	Moderate	X	X	X	X	X		
Wild oat	<i>Avena fatua</i>	G	NL	I	Moderate		X	X	X			

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**CARPINTERIA OIL AND GAS PROCESSING FACILITY - PLANT LIST**

**FAMILY**

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Brachypodium	<i>Brachypodium distachyon</i>	G	NL	I	Moderate	X						
Rescue grass	<i>Bromus catharticus</i>	G	NL	I			X	X				
Ripgut grass	<i>Bromus diandrus</i>	G	NL	I	Moderate	X	X	X	X		X	X
Soft cheat	<i>Bromus hordeaceus</i>	G	FACU	I	Limited			X		X	X	X
Red brome	<i>Bromus madritensis</i> ssp. <i>rubens</i>	G	UPL	I	High	X				X		X
Pampas grass	<i>Cortaderia selloana</i>	G	FACU	I	High	X	X	X				X
Bermuda grass	<i>Cynodon dactylon</i>	G	FACU	I	Moderate				X			X
Giant wildrye	<i>Elymus condensatus</i>	G	FACU	N								X
Erect veldt grass	<i>Ehrharta erecta</i>	G	NL	I	Moderate		X					
Italian ryegrass	<i>Festuca perennis</i>	G	FAC	I	Moderate			X	X			
Farmer's foxtail	<i>Hordeum murinum</i> ssp. <i>leporinum</i>	G	NI	I	Moderate	X	X	X	X	X	X	
Goldentop grass	<i>Lamarckia aurea</i>	G	FACU	I						X		
Dallis grass	<i>Paspalum dilatatum</i>	G	FAC	I				X				
Kikuyu grass	<i>Pennisetum clandestinum</i>	G	FACU	I	Limited		X	X				
Fountain grass	<i>Pennisetum setaceum</i>	G	NL	I	Moderate							X
Pennisetum	<i>Pennisetum villosum</i>	G	NL	I	Watch	X				X		X
Annual bluegrass	<i>Poa annua</i>	G	FAC	I			X					
Smilo grass	<i>Stipa mileacea</i>	G	NL	I	Limited			X	X	X		
Purple needlegrass	<i>Stipa pulchra</i>	G	NL	N		X						
Cultivated wheat	<i>Triticum aestivum</i>	G	NL	I					X			
Rattail fescue	<i>Festuca myuros</i>	G	FACU	I	Moderate	X					X	X

Native Status Notes

N: Native (to the region)

I: Introduced

Invasiveness Notes

Invasiveness Rating from California Invasive Plant Inventory (2020)

Wetland Notes

OBL: Obligate wetland species, occurs almost always in wetlands (>99% probability)

FACW: Facultative wetland species, usually found in wetlands (67-99% probability)

FAC: Facultative species, equally likely to occur in wetland and non-wetlands (34-66% probability)

FACU: Facultative upland species, not usually found in wetlands (1-33% probability)

UPL: Upland species, almost never found in wetlands (<1% probability)

NI: No indicator has been assigned due to a lack of information to determine indicator status

NL: Not listed, assumed upland species



## **ATTACHMENT B**

### **WETLAND DETERMINATION DATA FORMS**

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Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/12  
Applicant/Owner: Chevron State: CA Sampling Point: 1  
Investigator(s): Ingamelle Section, Township, Range: T4N R25W  
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
Subregion (LRR): LRR-C Lat: 34.38792 Long: 119.50824 Datum: WGS 84  
Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks:			

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
			= Total Cover	_____

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
			= Total Cover	_____

Herb Stratum (Plot size: <u>10' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Rumex crispus</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
2. <u>Cotula coronopifolia</u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>	<u>OBL</u>
3. <u>Plantago lanceolata</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	
4. <u>Cyperus eragrostis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
5. <u>Medicago polymorpha</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>	
6. <u>Spirigularia bocconi</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>	
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
			= Total Cover	<u>80</u>

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
			= Total Cover	_____

% Bare Ground in Herb Stratum \_\_\_\_\_

% Cover of Biotic Crust \_\_\_\_\_

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>40</u>	x 1 = <u>40</u>
FACW species <u>10</u> <u>15</u>	x 2 = <u>20</u> <u>30</u>
FAC species <u>15</u>	x 3 = <u>45</u>
FACU species <u>10</u>	x 4 = <u>40</u>
UPL species _____	x 5 = _____
Column Totals: <u>80</u>	(A) <u>155</u> (B) _____

Prevalence Index = B/A = 1.9

**Hydrophytic Vegetation Indicators:**

☒ Dominance Test is >50%

☒ Prevalence Index is ≤3.0<sup>1</sup>

\_\_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes ☒ No \_\_\_\_\_

Remarks:

Sampling Point: 1

## HYDROLOGY

Primary Indicators (minimum of one required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Surface Water Present? Yes \_\_\_\_\_ No ✓ Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No ✓ Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No ✓ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 2  
 Investigator(s): Ingramm Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38832 Long: 119.50828 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (COASTAL)
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks:	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
_____ = Total Cover			
Sapling/Shrub Stratum (Plot size: _____)			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
_____ = Total Cover			
Herb Stratum (Plot size: <u>10' diameter</u> )			
1. <u>Cotula coronopifolia</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Plantago lanceolata</u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Melicargo polymorpha</u>	<u>5</u>	<u>No</u>	<u>FACU</u>
4. <u>Rumex crispus</u>	<u>2</u>	<u>No</u>	<u>FAC</u>
5. _____			
6. _____			
7. _____			
8. _____			
<u>87</u> = Total Cover			
Woody Vine Stratum (Plot size: _____)			
1. _____			
2. _____			
_____ = Total Cover			
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____		
Remarks:			

### Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

### Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>30</u>	x 1 = <u>30</u>
FACW species _____	x 2 = _____
FAC species <u>52</u>	x 3 = <u>156</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species _____	x 5 = _____
Column Totals: <u>87</u> (A)	<u>206</u> (B)
Prevalence Index = B/A = <u>2.4</u>	

### Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%

☒ Prevalence Index is ≤3.0<sup>1</sup>

\_\_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

### Hydrophytic Vegetation Present?

Yes ☒ No ☐

Sampling Point: 2

[illegible]

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Hydric Soil Present? Yes No ☒

Remarks:

## Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

Wetland Hydrology Present? Yes ☒ No ☐

(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/12  
 Applicant/Owner: Chevron State: CA Sampling Point: 3  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38867 Long: 119.51027 Datum: NAD83  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? (CORSTAL) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks:	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
1. <u>Platanus racemosa</u>	<u>80</u>	<u>Yes</u>	<u>FAC</u>	
2. _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>80</u> x 3 = <u>240</u> FACU species _____ x 4 = _____ UPL species <u>45</u> x 5 = <u>225</u> Column Totals: <u>125</u> (A) <u>465</u> (B) Prevalence Index = B/A = <u>3.7</u>
3. _____				
4. _____				
5. _____				
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' diameter</u> )				
1. <u>Heteromeles arbutifolia</u>	<u>15</u>	<u>Yes</u>	<u>UPL</u>	Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
3. _____				
4. _____				
= Total Cover				
Herb Stratum (Plot size: <u>10' diameter</u> )				
1. <u>Bromus diandrus</u>	<u>30</u>	<u>Yes</u>	<u>UPL</u>	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____				
3. _____				
4. _____				
= Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				Remarks:
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____		



Sampling Point: 3

## HYDROLOGY

Primary Indicators (minimum of one required; check all that apply)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No indicators

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 4  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38803 Long: 119.51036 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
1. <u>Salix lasiolepis</u>	<u>40</u>	<u>yes</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<b>Sapling/Shrub Stratum (Plot size: <u>15' diameter</u>)</b>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>40</u> x 2 = <u>80</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species <u>40</u> x 5 = <u>200</u> Column Totals: <u>80</u> (A) <u>280</u> (B) Prevalence Index = B/A = <u>3.5</u>
1. <u>Heteromeles arbutifolia</u>	<u>30</u>	<u>yes</u>	<u>UPL</u>	
2. <u>Baccharis pilularis</u>	<u>10</u>	<u>yes</u>	<u>UPL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<b>Herb Stratum (Plot size: _____)</b>				<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<b>Woody Vine Stratum (Plot size: _____)</b>				<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

Sampling Point: 4

[illegible]

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Hydric Soil Present? Yes \_\_\_\_\_ No ✓

No indicators



Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/12  
Applicant/Owner: Chevron State: CA Sampling Point: 5  
Investigator(s): Ingramella Section, Township, Range: T9N R25W  
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
Subregion (LRR): LRR-C Lat: 34.38806 Long: 119.51016 Datum: WGS 84  
Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present?      Yes <u>✓</u> No <u>      </u> Hydric Soil Present?                      Yes <u>      </u> No <u>✓</u> Wetland Hydrology Present?            Yes <u>      </u> No <u>✓</u>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <u>✓</u> No <u>      </u>
Remarks:		

Tree Stratum (Plot size: <u>30' diameter</u> )		Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1.	<u>Salix lasiolepis</u>	<u>80</u>	<u>Yes</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2.					Total Number of Dominant Species Across All Strata:	<u>5</u> (B)
3.					Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>40%</u> (A/B)
4.		<u>80</u>	= Total Cover			
Sapling/Shrub Stratum (Plot size: _____)						
1.						
2.						
3.						
4.						
5.						
					Prevalence Index worksheet:	
					Total % Cover of:	Multiply by:
					OBL species	x 1 =
					FACW species <u>80</u>	x 2 = <u>160</u>
					FAC species <u>2</u>	x 3 = <u>6</u>
					FACU species <u>25</u>	x 4 = <u>100</u>
					UPL species <u>7</u>	x 5 = <u>35</u>
					Column Totals: <u>114</u>	(A) <u>301</u> (B)
					Prevalence Index = B/A = <u>2.6</u>	
Herb Stratum (Plot size: <u>10' diameter</u> )						
1.	<u>Ambrosia psilostachya</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>		
2.	<u>Spp. mileneae</u>	<u>5</u>	<u>Yes</u>	<u>UPL</u>		
3.	<u>Plantago lanceolata</u>	<u>2</u>	<u>Yes</u>	<u>FAC</u>		
4.	<u>Artemisia californica (seedlings)</u>	<u>2</u>	<u>Yes</u>	<u>UPL</u>		
5.						
6.						
7.						
8.		<u>34</u>	= Total Cover			
Woody Vine Stratum (Plot size: _____)						
1.						
2.						
					= Total Cover	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____						
Remarks:						

**Hydrophytic Vegetation Indicators:**

☐ Dominance Test is >50%

☒ Prevalence Index is ≤3.0<sup>1</sup>

☐ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes ☒ No ☐

## SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-6	7.5YR 4/3		7.5YR 4/2	5			sandy loam	Very faint redox depletions
6-12	7.5YR 4/3						loamy sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5) (LRR C)  
☐ 1 cm Muck (A9) (LRR D)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Mucky Mineral (S1)  
☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Vernal Pools (F9)

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Remarks:

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- |                                                                    |                                                                        |                                                                    |
|--------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              | <input type="checkbox"/> Water Marks (B1) (Riverine)               |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            | <input type="checkbox"/> Sediment Deposits (B2) (Riverine)         |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   | <input type="checkbox"/> Drift Deposits (B3) (Riverine)            |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)    | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7)                        | <input type="checkbox"/> Shallow Aquitard (D3)                     |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 | <input type="checkbox"/> Other (Explain in Remarks)                    | <input type="checkbox"/> FAC-Neutral Test (D5)                     |

Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 6  
 Investigator(s): Ingamells Section, Township, Range: T4N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38797 Long: 119.51036 Datum: WGS 84  
 Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum	Plot size: <u>30' diameter</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)																																			
1. <u>Salix lasiolepis</u>		<u>100</u>	<u>Yes</u>	<u>FACW</u>																																				
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4. _____																																								
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1. _____																																								
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Remarks:																																								



## SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-6	7.5YR 4/3		7.5YR 4/2	2			<del>loamy</del> sandy loam	
6-12	7.5YR 4/3						loamy sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5) (LRR C)  
☐ 1 cm Muck (A9) (LRR D)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Mucky Mineral (S1)  
☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (Inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Remarks:

very faint redox depletions

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)  
☐ High Water Table (A2)  
☐ Saturation (A3)  
☐ Water Marks (B1) (Nonriverine)  
☐ Sediment Deposits (B2) (Nonriverine)  
☐ Drift Deposits (B3) (Nonriverine)  
☐ Surface Soil Cracks (B6)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)  
☐ Biotic Crust (B12)  
☐ Aquatic Invertebrates (B13)  
☐ Hydrogen Sulfide Odor (C1)  
☐ Oxidized Rhizospheres along Living Roots (C3)  
☐ Presence of Reduced Iron (C4)  
☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Thin Muck Surface (C7)  
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)  
☐ Sediment Deposits (B2) (Riverine)  
☐ Drift Deposits (B3) (Riverine)  
☐ Drainage Patterns (B10)  
☐ Dry-Season Water Table (C2)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Shallow Aquitard (D3)  
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 7  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38786 Long: 119.51043 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15' diameter</u> ) = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>90</u> x 2 = <u>180</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species <u>8</u> x 5 = <u>40</u> Column Totals: <u>98</u> (A) <u>220</u> (B) Prevalence Index = B/A = <u>2.2</u>
1. <u>Salix lasiolepis</u>	<u>90</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Heteromeles arbutifolia</u>	<u>3</u>	<u>No</u>	<u>UPL</u>	
3. _____				
4. _____				
<b>Herb Stratum</b> (Plot size: <u>10' diameter</u> ) = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. <u>Bromus diandrus</u>	<u>5</u>	<u>Yes</u>	<u>UPL</u>	
2. _____				
3. _____				
4. _____				
<b>Woody Vine Stratum</b> (Plot size: _____) = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				
2. _____				
3. _____				
4. _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

## SOIL

Sampling Point: 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5) (LRR C)  
☐ 1 cm Muck (A9) (LRR D)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Mucky Mineral (S1)  
☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Remarks:

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)  
☐ High Water Table (A2)  
☐ Saturation (A3)  
☐ Water Marks (B1) (Nonriverine)  
☐ Sediment Deposits (B2) (Nonriverine)  
☐ Drift Deposits (B3) (Nonriverine)  
☐ Surface Soil Cracks (B6)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)  
☐ Biotic Crust (B12)  
☐ Aquatic Invertebrates (B13)  
☐ Hydrogen Sulfide Odor (C1)  
☐ Oxidized Rhizospheres along Living Roots (C3)  
☐ Presence of Reduced Iron (C4)  
☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Thin Muck Surface (C7)  
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)  
☐ Sediment Deposits (B2) (Riverine)  
☐ Drift Deposits (B3) (Riverine)  
☐ Drainage Patterns (B10)  
☐ Dry-Season Water Table (C2)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Shallow Aquitard (D3)  
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 8  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38779 Long: 119.51025 Datum: NAD83  
 Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>60</u> x 3 = <u>180</u> FACU species _____ x 4 = _____ UPL species <u>50</u> x 5 = <u>250</u> Column Totals: <u>110</u> (A) _____ (B) Prevalence Index = B/A = <u>3.9</u>
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u> diameter)</b> 1. <u>Artemisia californica</u> <u>25</u> <u>yes</u> <u>UPL</u> 2. <u>Baccharis pilularis</u> <u>5</u> <u>yes</u> <u>UPL</u> 3. _____ 4. _____ 5. _____				
_____ = Total Cover				
<b>Herb Stratum (Plot size: <u>10'</u> diameter)</b> 1. <u>Plantago lanceolata</u> <u>60</u> <u>yes</u> <u>FAC</u> 2. <u>Medicago polymorpha</u> <u>20</u> <u>yes</u> <u>UPL</u> 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____				
_____ = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ _____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				
Remarks:				



## SOIL

Sampling Point: 8

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		

See sample point 6

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

## Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |                                       |                                |
|---------------------------------------|--------------------------------|
| ___ Histosol (A1)                     | ___ Sandy Redox (S5)           |
| ___ Histic Epipedon (A2)              | ___ Stripped Matrix (S6)       |
| ___ Black Histic (A3)                 | ___ Loamy Mucky Mineral (F1)   |
| ___ Hydrogen Sulfide (A4)             | ___ Loamy Gleyed Matrix (F2)   |
| ___ Stratified Layers (A5) (LRR C)    | ___ Depleted Matrix (F3)       |
| ___ 1 cm Muck (A9) (LRR D)            | ___ Redox Dark Surface (F6)    |
| ___ Depleted Below Dark Surface (A11) | ___ Depleted Dark Surface (F7) |
| ___ Thick Dark Surface (A12)          | ___ Redox Depressions (F8)     |
| ___ Sandy Mucky Mineral (S1)          | ___ Vernal Pools (F9)          |
| ___ Sandy Gleyed Matrix (S4)          |                                |

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

## Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes No ☒

Remarks:

## HYDROLOGY

### Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- |                                                                      |                                                                        |                                                                    |
|----------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------|
| <input type="checkbox"/> Surface Water (A1)                          | <input type="checkbox"/> Salt Crust (B11)                              | <input type="checkbox"/> Water Marks (B1) <b>(Riverine)</b>        |
| <input type="checkbox"/> High Water Table (A2)                       | <input type="checkbox"/> Biotic Crust (B12)                            | <input type="checkbox"/> Sediment Deposits (B2) <b>(Riverine)</b>  |
| <input type="checkbox"/> Saturation (A3)                             | <input type="checkbox"/> Aquatic Invertebrates (B13)                   | <input type="checkbox"/> Drift Deposits (B3) <b>(Riverine)</b>     |
| <input type="checkbox"/> Water Marks (B1) <b>(Nonriverine)</b>       | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Sediment Deposits (B2) <b>(Nonriverine)</b> | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Drift Deposits (B3) <b>(Nonriverine)</b>    | <input type="checkbox"/> Presence of Reduced Iron (C4)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Surface Soil Cracks (B6)                    | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)    | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)   | <input type="checkbox"/> Thin Muck Surface (C7)                        | <input type="checkbox"/> Shallow Aquitard (D3)                     |
| <input type="checkbox"/> Water-Stained Leaves (B9)                   | <input type="checkbox"/> Other (Explain in Remarks)                    | <input type="checkbox"/> FAC-Neutral Test (D5)                     |

**Field Observations:**

Surface Water Present? Yes ☐ No ☒ Depth (inches): 1

Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 9  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38785 Long: 119.57052 Datum: WGS 84  
 Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? ( <u>COASTAL</u> )	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/> No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
4. _____	_____	_____	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' diameter</u> )				
1. <u>Baccharis salicifolia</u>	<u>75</u>	<u>Yes</u>	<u>FAC</u>	Prevalence Index worksheet:
2. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
3. _____	_____	_____	_____	OBL species _____ x 1 = _____
4. _____	_____	_____	_____	FACW species _____ x 2 = _____
5. _____	_____	_____	_____	FAC species <u>75</u> x 3 = <u>225</u>
= Total Cover				FACU species <u>25</u> x 4 = <u>100</u>
Herb Stratum (Plot size: <u>10' diameter</u> )				UPL species <u>55</u> x 5 = <u>275</u>
1. <u>Bromus diandrus</u>	<u>50</u>	<u>Yes</u>	<u>UPL</u>	Column Totals: <u>155</u> (A) <u>800</u> (B)
2. <u>Geranium dissectum</u>	<u>5</u>	<u>No</u>	<u>UPL</u>	Prevalence Index = B/A = <u>3.9</u>
3. <u>Medicago polymorpha</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:
4. _____	_____	_____	_____	___ Dominance Test is >50%
5. _____	_____	_____	_____	___ Prevalence Index is ≤3.0 <sup>1</sup>
6. _____	_____	_____	_____	___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
7. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
8. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
= Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

## SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	7.5 YR 4/3						loamy sand	
6-712	7.5 YR 4/4						loamy sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5) (LRR C)  
☐ 1 cm Muck (A9) (LRR D)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Mucky Mineral (S1)  
☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Remarks:

No indicators

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)  
☐ High Water Table (A2)  
☐ Saturation (A3)  
☐ Water Marks (B1) (Nonriverine)  
☐ Sediment Deposits (B2) (Nonriverine)  
☐ Drift Deposits (B3) (Nonriverine)  
☐ Surface Soil Cracks (B6)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)  
☐ Biotic Crust (B12)  
☐ Aquatic Invertebrates (B13)  
☐ Hydrogen Sulfide Odor (C1)  
☐ Oxidized Rhizospheres along Living Roots (C3)  
☐ Presence of Reduced Iron (C4)  
☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Thin Muck Surface (C7)  
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)  
☒ Sediment Deposits (B2) (Riverine)  
☐ Drift Deposits (B3) (Riverine)  
☐ Drainage Patterns (B10)  
☐ Dry-Season Water Table (C2)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Shallow Aquitard (D3)  
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 10  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38576 Long: 119.50619 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: <u>(coastal)</u>	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____				
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' diam</u> )				Prevalence Index worksheet:
1. <u>Salix lasiolepis</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>	Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species <u>100</u> x 2 = <u>200</u>
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
= Total Cover				UPL species _____ x 5 = _____
Herb Stratum (Plot size: _____)				Column Totals: <u>100</u> (A) <u>200</u> (B)
1. _____				Prevalence Index = B/A = <u>2.0</u>
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
= Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. _____				<input checked="" type="checkbox"/> Dominance Test is >50%
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:				



## SOIL

Sampling Point: 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5) (LRR C)  
☐ 1 cm Muck (A9) (LRR D)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Mucky Mineral (S1)  
☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No \_\_\_\_\_

Remarks:

No data

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)  
☐ High Water Table (A2)  
☐ Saturation (A3)  
☐ Water Marks (B1) (Nonriverine)  
☐ Sediment Deposits (B2) (Nonriverine)  
☐ Drift Deposits (B3) (Nonriverine)  
☐ Surface Soil Cracks (B6)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)  
☐ Biotic Crust (B12)  
☐ Aquatic Invertebrates (B13)  
☐ Hydrogen Sulfide Odor (C1)  
☐ Oxidized Rhizospheres along Living Roots (C3)  
☐ Presence of Reduced Iron (C4)  
☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Thin Muck Surface (C7)  
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)  
☐ Sediment Deposits (B2) (Riverine)  
☐ Drift Deposits (B3) (Riverine)  
☐ Drainage Patterns (B10)  
☐ Dry-Season Water Table (C2)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Shallow Aquitard (D3)  
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/12  
 Applicant/Owner: Chevron State: CA Sampling Point: 10A  
 Investigator(s): Ingamelle Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38584 Long: 119.50606 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? <u>(Coastal)</u> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Remarks:		

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>100</u> x 2 = <u>200</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species <u>40</u> x 5 = <u>200</u> Column Totals: <u>140</u> (A) <u>400</u> (B) Prevalence Index = B/A = <u>2.9</u>
<b>Sapling/Shrub Stratum (Plot size: <u>15' diameter</u>)</b> 1. <u>Salix lasiolepis</u> <u>100</u> Yes <u>FACW</u>				
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				
<b>Herb Stratum (Plot size: <u>10' diameter</u>)</b> 1. <u>Oxalis pes-caprae</u> <u>40</u> Yes <u>UPL</u>				<b>Hydrophytic Vegetation Indicators:</b> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input checked="" type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) _____ <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ _____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

Sampling Point: 10A

## HYDROLOGY

US Army Corps of Engineers

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 11  
 Investigator(s): Ingamells Section, Township, Range: T4N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38781 Long: 119.51221 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? (CONTAL)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species <u>95</u> x 1 = <u>95</u> FACW species _____ x 2 = _____ FAC species <u>15</u> x 3 = <u>45</u> FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>110</u> (A) <u>140</u> (B) Prevalence Index = B/A = <u>1.3</u>
<b>Sapling/Shrub Stratum (Plot size: <u>15' diameter</u>)</b> 1. <u>Baccharis salicifolia</u> <u>15</u> <u>Yes</u> <u>FAC</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
<b>Herb Stratum (Plot size: <u>10' diameter</u>)</b> 1. <u>Schoenoplectus californicus</u> <u>110</u> <u>Yes</u> <u>OBL</u>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ _____ = Total Cover				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
<b>Remarks:</b>				





# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 12  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38790 Long: 119.51233 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Platanus racemosa</u>	<u>100</u>	<u>yes</u>	<u>FAC</u>		Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
4. _____	_____	_____	_____		
Sapling/Shrub Stratum (Plot size: <u>15' diameter</u> )				Prevalence Index worksheet:	
1. <u>Rosa californica</u>	<u>60</u>	<u>yes</u>	<u>FAC</u>		Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____	
3. _____	_____	_____	_____	FACW species _____ x 2 = _____	
4. _____	_____	_____	_____	FAC species <u>195</u> x 3 = <u>585</u>	
5. _____	_____	_____	_____	FACU species _____ x 4 = _____	
Herb Stratum (Plot size: _____)				UPL species _____ x 5 = _____	
1. _____	_____	_____	_____	Column Totals: <u>195</u> (A) <u>585</u> (B)	
2. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.0</u>	
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
4. _____	_____	_____	_____		<input checked="" type="checkbox"/> Dominance Test is >50%
5. _____	_____	_____	_____		<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
6. _____	_____	_____	_____		<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
7. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
8. _____	_____	_____	_____		
Woody Vine Stratum (Plot size: <u>15' diameter</u> )				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. <u>Rubus <del>chrysanthemifolius</del> ursinus</u>	<u>35</u>	<u>yes</u>	<u>FAC</u>		
2. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks:

Sampling Point: 12

## HYDROLOGY

US Army Corps of Engineers C-168 Arid West -- Version 2.0

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: B  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38780 Long: 119.57200 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Salix lasiolepis</u>	<u>15</u>	<u>No</u>	<u>FACW</u>	
2. <u>Platanus racemosa</u>	<u>85</u>	<u>Yes</u>	<u>FAC</u>	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____				
<u>100</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Rosa californica</u>	<u>75</u>	<u>Yes</u>	<u>FAC</u>	
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species <u>15</u> x 2 = <u>30</u>
4. _____				FAC species <u>185</u> x 3 = <u>555</u>
5. _____				FACU species _____ x 4 = _____
<u>75</u> = Total Cover				UPL species _____ x 5 = _____
				Column Totals: <u>200</u> (A) <u>585</u> (B)
				Prevalence Index = B/A = <u>2.9</u>
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. _____				
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
3. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5. _____				
6. _____				
7. _____				
8. _____				
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>13' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. <u>Rubus ursinus</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>	
2. _____				
<u>25</u> = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

Remarks:



Sampling Point:

13

[illegible]<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No \_\_\_\_\_

no date

Secondary Indicators (2 or more required)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Wetland Hydrology Present?    Yes                      No

No indicators

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 14  
 Investigator(s): Ingamells Section, Township, Range: T4N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38772 Long: 119.51180 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? (CORITAC)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>100</u> x 2 = <u>200</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>100</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2.0</u>
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
<b>% Bare Ground in Herb Stratum</b> _____ <b>% Cover of Biotic Crust</b> _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
Remarks: <u>Patch ~ 25' x 100' along south side of Trail</u>				

Sampling Point: 

## HYDROLOGY

Primary Indicators (minimum of one required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Surface Water Present? Yes \_\_\_\_\_ No ✓ Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No ✓ Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No ✓ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

Wetland Hydrology Present? Yes            No           

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 15  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38271 Long: 119.51169 Datum: WGS 84  
 Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Salix lasiolepis</u>	<u>95</u>	<u>Yes</u>	<u>FACW</u>	
2. _____				Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)
4. _____				
Sapling/Shrub Stratum (Plot size: <u>15' diameter</u> )				Prevalence Index worksheet:
1. <u>Encelia californica</u>	<u>40</u>	<u>Yes</u>	<u>UPL</u>	
2. <u>Rhus integrifolia</u>	<u>10</u>	<u>Yes</u>	<u>UPL</u>	OBL species _____ x 1 = _____
3. _____				FACW species <u>95</u> x 2 = <u>190</u>
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
Herb Stratum (Plot size: <u>10' diameter</u> )				UPL species <u>100</u> x 5 = <u>500</u>
1. <u>Bromus diandrus</u>	<u>50</u>	<u>Yes</u>	<u>UPL</u>	Column Totals: <u>195</u> (A) <u>690</u> (B)
2. _____				Prevalence Index = B/A = <u>3.5</u>
3. _____				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				

Remarks:



Sampling Point:

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- <sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Depth (inches): \_\_\_\_\_

Hydric Soil Present?	Yes	No
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No data

### Wetland Hydrology Indicators:

## Secondary Indicators (2 or more required)

- Field Observations:**

Saturation Present? Yes      No      Depth (inches):     

Wetland Hydrology Present? Yes            No           

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No Indicators

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 16  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38765 Long: 119.51141 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diam</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Salix lasiolepis</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>Sapling/Shrub Stratum (Plot size: _____)</u> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species <u>100</u> x 2 = <u>200</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>100</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2.0</u>
<u>Herb Stratum (Plot size: _____)</u> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover				
<u>Woody Vine Stratum (Plot size: _____)</u> 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Sampling Point:

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- <sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Hydric Soil Present? Yes \_\_\_\_\_ No \_\_\_\_\_

No data

### Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

- Wetland Hydrology Present? Yes No

No indicators

**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 17  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD 83  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ <u>(COASTAL)</u>
Remarks:	

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: <u>30' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Salix lasiolepis</u>	<u>100</u>	<u>yes</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
4. _____	_____	_____	_____	
<b>Sapling/Shrub Stratum (Plot size: <u>15' diameter</u>)</b> <u>100</u> = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>105</u> x 2 = <u>210</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species <u>15</u> x 5 = <u>75</u> Column Totals: <u>120</u> (A) <u>285</u> (B)
1. <u>Encelia californica</u>	<u>15</u>	<u>yes</u>	<u>UPL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<b>Herb Stratum (Plot size: <u>10' diameter</u>)</b> <u>15</u> = Total Cover				Prevalence Index = B/A = <u>2.4</u>
1. <u>Salix lasiolepis (seedling)</u>	<u>5</u>	<u>yes</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<b>Woody Vine Stratum (Plot size: _____)</b> <u>5</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
Remarks:				



## SOIL

Sampling Point:

17

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |                                       |                                |
|---------------------------------------|--------------------------------|
| ___ Histosol (A1)                     | ___ Sandy Redox (S5)           |
| ___ Histic Epipedon (A2)              | ___ Stripped Matrix (S6)       |
| ___ Black Histic (A3)                 | ___ Loamy Mucky Mineral (F1)   |
| ___ Hydrogen Sulfide (A4)             | ___ Loamy Gleyed Matrix (F2)   |
| ___ Stratified Layers (A5) (LRR C)    | ___ Depleted Matrix (F3)       |
| ___ 1 cm Muck (A9) (LRR D)            | ___ Redox Dark Surface (F6)    |
| ___ Depleted Below Dark Surface (A11) | ___ Depleted Dark Surface (F7) |
| ___ Thick Dark Surface (A12)          | ___ Redox Depressions (F8)     |
| ___ Sandy Mucky Mineral (S1)          | ___ Vernal Pools (F9)          |
| ___ Sandy Gleyed Matrix (S4)          |                                |

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No \_\_\_\_\_

Remarks:

No data

## HYDROLOGY

### Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- |                                                                    |                                                                        |                                                                    |
|--------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              | <input type="checkbox"/> Water Marks (B1) (Riverine)               |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            | <input type="checkbox"/> Sediment Deposits (B2) (Riverine)         |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   | <input type="checkbox"/> Drift Deposits (B3) (Riverine)            |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)    | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7)                        | <input type="checkbox"/> Shallow Aquitard (D3)                     |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 | <input type="checkbox"/> Other (Explain in Remarks)                    | <input type="checkbox"/> FAC-Neutral Test (D5)                     |

Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No ✓ Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_

Saturation Present? Yes ☐ No ☒ Depth (inches): 12

(includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No 4/10/2008

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 18  
 Investigator(s): Ingamells Section, Township, Range: T4N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38749 Long: 119.51074 Datum: WGS 84  
 Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. <u>Salix lasiolepis</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Sapling/Shrub Stratum (Plot size: <u>15' diameter</u> )				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>100</u> x 2 = <u>200</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species <u>40</u> x 5 = <u>200</u> Column Totals: <u>140</u> (A) <u>400</u> (B) Prevalence Index = B/A = <u>2.9</u>
1. <u>Rhus integrifolia</u>	<u>40</u>	<u>Yes</u>	<u>UPL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				Remarks:
_____ = Total Cover				

Sampling Point: 10

## HYDROLOGY

Primary Indicators (minimum of one required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Surface Water Present? Yes ☐ No ☒ Depth (Inches): \_\_\_\_\_

Water Table Present? Yes ☐ No ☒ Depth (Inches): \_\_\_\_\_

Saturation Present? Yes ☐ No ☒ Depth (Inches): \_\_\_\_\_  
(includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No       

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 19  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: WGS 84  
 Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? (COASTAL) Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes _____ No _____	
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>	
Remarks:		

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diam</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
1. <u>Salix lasiolepis</u>	<u>100</u>	<u>yes</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Sapling/Shrub Stratum (Plot size: <u>15' diam</u> )				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>100</u> x 2 = <u>200</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species <u>40</u> x 5 = <u>200</u> Column Totals: <u>140</u> (A) <u>400</u> (B) Prevalence Index = B/A = <u>2.9</u>
1. <u>Rhus integrifolia</u>	<u>20</u>	<u>yes</u>	<u>UPL</u>	
2. <u>Encelia californica</u>	<u>20</u>	<u>yes</u>	<u>UPL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Woody Vine Stratum (Plot size: _____)				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				



Sampling Point: 19

## HYDROLOGY

Arid West – Version 2.0

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 20  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38682 Long: 119.50916 Datum: WGS 84  
 Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks:	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
= Total Cover			

Sapling/Shrub Stratum (Plot size: <u>15' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Atriplex confertifolia</u>	<u>100</u>	<u>Yes</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
<u>100</u> = Total Cover			

Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
= Total Cover			

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
= Total Cover			

% Bare Ground in Herb Stratum \_\_\_\_\_ % Cover of Biotic Crust \_\_\_\_\_

Remarks:

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species <u>100</u>	x 3 = <u>300</u>
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: <u>100</u> (A)	<u>300</u> (B)

Prevalence Index = B/A = 3.0

**Hydrophytic Vegetation Indicators:**

☒ Dominance Test is >50%

☒ Prevalence Index is ≤3.0<sup>1</sup>

☐ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes ☒ No ☐

## SOIL

Sampling Point: 20

[illegible]

## HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No indicators		

## **Appendix C-5**

### **Marine Biological Resources Study**



# **MARINE BIOLOGICAL RESOURCES STUDY**

## **DECOMMISSIONING AND REMEDIATION OF THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES SANTA BARBARA COUNTY, CALIFORNIA**

**Project No. 2002-5211**

**Prepared for:**

Chevron West Coast Decommissioning Program  
3916 State Street, Suite 200  
Santa Barbara, CA 93105

**Prepared by:**

Padre Associates, Inc.  
1861 Knoll Drive  
Ventura, California 93003

**DECEMBER 2021**



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## **ATTACHMENTS**

- Attachment A. USFWS and NMFS Species Lists
- Attachment B. Site Photographs

## **1.0 INTRODUCTION**

This Marine Biological Resources Study (Study) has been prepared on behalf of Chevron USA (Chevron) in support of the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project (Project). The proposed Project includes demolition of surface and subsurface facilities and remediation of any subsurface soil and groundwater contamination at the Carpinteria Onshore Oil and Gas Processing Facility, as well as subsea pipeline removal from the shore out to State Waters (three nautical miles) (Project Site). The Project will also include the removal of pipelines from the bluff and beach areas adjacent to the Casitas Pier and west of the Carpinteria Harbor Seal Rookery.

This Study includes a description of the proposed offshore Project activities, followed by the study methodology section, which describes desktop study and analytical methods used to assess the biological resources within the Project site. The methodology section includes a review of literature concerning historical site use, special-status species, sensitive habitats, and general biological site conditions. The environmental setting describes abiotic and biotic conditions at the Project site including climate, substrates, typical habitats and associated algal, marine plant and wildlife species, and special-status species reported in or near the Project Site. A review of regulatory requirements is then provided, and the final section summarizes the avoidance and minimization measures currently proposed by Chevron to reduce Project impacts to less than significant levels.



## **2.0 BACKGROUND**

Chevron is planning the decommissioning of onshore and offshore oil and gas facilities associated with the Carpinteria Oil and Gas Facility. Given the marine biological nature of this Study, the following Project description focuses on the beach, nearshore and offshore components of the Project. A summary of terrestrial biological resources is provided in a separate report. Decommissioning and remediation of the Carpinteria Oil and Gas Processing Facilities from the beach to the boundary of State Waters (three nautical miles) will include:

### **Beach Crossing and Offshore Pipelines (State Waters)**

- Pig and flush pipelines in preparation for removal
- Removal of offshore Project pipeline segments out to 3-mile State waters limit
- Removal of nearshore beach crossing pipeline segments
- Recycling/disposal of all materials removed from the Project site(s)
- Restoration in accordance with the Site Restoration Plan (once approved)

## **2.1 LOCATION AND LAND USE**

The onshore Project Site is located in the eastern portion of the City of Carpinteria, California, between U.S. Highway 101 and the Pacific Ocean. The offshore Project site is located between the onshore Project Site and the State water boundary within the Santa Barbara Channel (Figure 2-1 - Offshore Project Site and Study Area). The onshore facilities developed at the Project Site historically have been used to process oil and gas produced from the Summerland, Carpinteria, Santa Clara, and Sockeye Fields located within the Santa Barbara Channel. The associated offshore pipelines area located within State Lease Nos. PRC 3133, 3150, 7911, and 4000 on submerged lands leased from the City (from shore to 2 miles offshore) and County (from 2 to 3 miles offshore). Ownership of the Project Site was originally obtained by Chevron (formerly Standard Oil Company) in 1959 and subsequently sold to Venoco in 1999. Chevron reacquired ownership of the Project Site in an agreement between Chevron and Venoco in 2017.

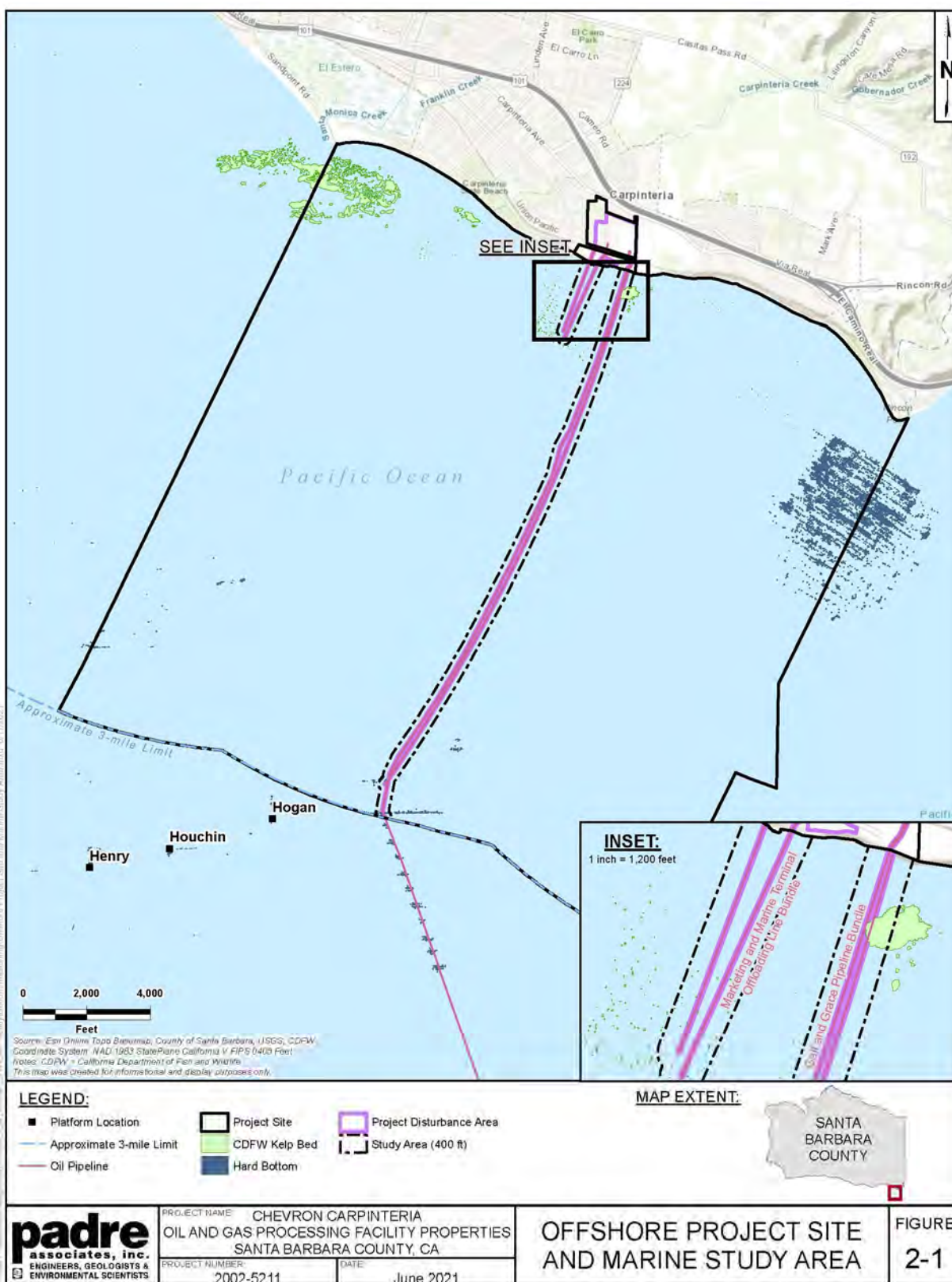


Figure 2-1. Offshore Project Site and Study Area

## 2.2 PROJECT DESCRIPTION SUMMARY

Demolition and remediation activities will be broken into three primary areas according to their respective location and supporting construction methodologies. The three areas include the Onshore Processing Facility (including the area extending to the bluff face), Beach Crossing (bluff face to mean high tide line), and Offshore Pipeline Segments (mean high tide out to 3 nm State waters limit). Due to the marine biological nature of this Study, the following Project Description will focus on two Project areas: The Beach Crossing and Offshore Pipeline Segments. A full description of beach and offshore Project activities can be found in the Project Description (Padre, 2021).

### 2.2.1 Beach Crossing and Offshore Pipeline Decommissioning

Two operational areas are present within the beach crossing and offshore Project site: The Marketing and Marine Terminal Offloading Lines Bundle and the Gail and Grace Pipeline Bundle/10-inch oil pipeline area. Table 2-1 below lists the pipeline components for each operational area, lengths of pipeline to be removed, and the anticipated removal methods.

The proposed Project will require the mobilization of an offshore marine equipment spread consisting of either a dynamically positioned or anchored work barge(s) with support vessels. A commonly used offshore spread for pipeline removal projects consists of a derrick barge with deck crane (i.e., M/V Salta Verde or equivalent sized vessel) and tending tug, a materials barge (M/V Abalone Pt. or equivalent sized vessel) and tending tug, and a crew boat for transit between the nearest harbor and the offshore Project Site. In addition, a commercial dive support vessel and an offshore survey and surface navigation vessel may be required to locate and track progress during pipeline recovery operations. The derrick barge and dive vessel spread will include a vessel crane and mounted-winch, jet pump, air lift, cutting equipment, and recovery rigging to provide options for uncovering, pulling, cutting and recovery. When working in shallow depths, the derrick barge will require an anchor-handling vessel to run all the vessels anchors to pre-determined anchor locations. Anchoring along the pipeline bundles' corridors will be limited to sandy areas of the seafloor and will not occur on hard-bottom areas.

**Table 2-1. Proposed Offshore Final Disposition Summary**

Offshore Operational Area	Bundle Components	Pipeline Corridor Length (approximate feet)	Proposed Removal Methods
Gail and Grace Bundle/10-inch Oil Pipeline Area	10-inch oil pipeline 10-inch gas pipeline	19,030	<b>Offshore:</b> Reverse installation/under running pipeline utilizing crane barge to lift and cut pipe into sections on barge deck. Removal out to State Waters boundary (three nautical miles).
	10-inch oil pipeline (on risers)	17,909	<b>Surf Zone:</b> Shore-side and dive crews, remove concrete armoring, excavate

Offshore Operational Area	Bundle Components	Pipeline Corridor Length (approximate feet)	Proposed Removal Methods
			and recover pipelines to an offshore derrick barge.  <b>Bluff:</b> Shore-side crews remove concrete armoring and recover concrete pieces and pipelines to the top of bluff via crane.
Marketing and Marine Terminal Offloading Line Bundle	10-inch offloading crude oil line 2, 4-inch subdrain pipelines 6-inch wastewater pipeline	2,843	<b>Offshore:</b> Diver-directed hydraulic pipe shear to cut into sections on seafloor and pipe grapple to recover pipe sections to barge deck. Removal out to existing offshore termini.
	20" crude oil pipeline 6" wastewater pipeline 8" wastewater pipeline Valve box (on bluff)	3,285	<b>Surf Zone:</b> Shore-side and dive crews, excavate, as needed, in surf zone and on beach, and recover pipelines to a derrick barge. Alternatively, pipe could be recovered to top of the bluff via winch and crane (2 locations). Alternatively, a derrick barge could be utilized.  <b>Bluff:</b> Shore-side crews remove rip rap armoring and recover boulders and pipelines to the top of bluff via crane and/or heavy equipment. Excavate and remove valve box following pipeline removal.



### **3.0 METHODOLOGY**

#### **3.1 LITERATURE REVIEW**

Padre biologists reviewed available facility design information, historic Carpinteria Oil and Gas Processing Facilities reports and seafloor maps, as well as regional marine biological geographic information systems (GIS) data from California Department of Fish and Wildlife (CDFW) and bathymetric mapping from U.S. Geological Survey (USGS) (CDFW, 2021, Johnson et al., 2013). A list of federally listed Threatened and Endangered species was obtained from the U.S. Fish and Wildlife Service (USFWS) and from the National Marine Fisheries Service (NMFS), and are included under Attachment A. The Multi-Agency Rocky Intertidal Network (MARINe) and Partnership of Interdisciplinary Studies of Coastal Oceans (PISCO) Databases were reviewed to assess the potential for biological resources and to determine the likelihood of occurrence for special-status species and/or sensitive and regulated habitats on the site. Special-status taxa that are known to exist or have the potential to exist on the Project site were also identified through a review of relevant literature.

#### **3.2 DESKTOP STUDY**

A biological resources study area was identified prior to beginning desktop studies. The study area includes all temporary disturbance areas, vessel and barge spread area and a 400-foot buffer from potential anchor locations (based on water depth). Boundaries of the study area are depicted in Figure 2-1. Reconnaissance surveys were conducted to familiarize with the layout and spatial limits of the study area; however, no focused field surveys were conducted within the study area at this time.

## **4.0 ENVIRONMENTAL SETTING**

The offshore Project site is located between the onshore Project Site bluff edge and out to the State Waters line within northern side of the Santa Barbara Channel. The Marketing and Marine Terminal offloading line bundle terminates at approximately a 60-foot (18-meter) water depth, while the Gail and Grace pipeline bundle extends from its landfall at the Project site then out into City of Carpinteria and County of Santa Barbara deeded tidelands, continuing to the three-mile State Waters boundary and then eventually southward to Platforms Grace and Gail. Water depths within the offshore Project Site range between zero and approximately 150 feet (46 meters). The local climate of nearshore and offshore waters of the Project Site is comprised of temperatures averaging between 55 to 65 degrees Fahrenheit and winds from the west, that range from eight to 16 miles per hour (mph); however, winds speed near the coast can be much lower than those in open waters (Argonne National Laboratory, 2019). The Project site lies southeast of regionally important coastal migration and topographic landmarks, Point Conception, Point Arguello and Santa Ynez Mountains, and north of the California Channel Islands. The region is a major biogeographic transition zone offshore, where the cold-temperature waters of the Oregonian Province meet with the warm-temperate waters of the San Diego Province. This transition zone has resulted in the development of distinctive communities and foraging grounds for migrating wildlife.

### **4.1 MARINE HABITAT DESCRIPTIONS**

#### **4.1.1 Sandy Beach Habitat**

The Project Site is located at Carpinteria Beach/Tar pits Park, which is heavily utilized by the public during most of the year. The beach habitat within this area is comprised of a gradually sloping sandy beach area that is located to the south of the bluff within the study area and extends to the intertidal zone. Due to regular inundation of saltwater from high tides and wave activity, wind, and dynamic soils, the sand beach habitat does not support vegetation. However, deposits of kelp detritus and driftwood from extreme high tide periods provide cover for a variety of avifauna and marine invertebrates in portions of this habitat. The amount of available habitat from these deposits of kelp detritus and driftwood debris fluctuates throughout the year based on ocean tides and wave activity.

#### **4.1.2 Intertidal Habitats**

The intertidal zone within the study area consists primarily of sand with a mosaic of intermittent low- to medium-relief rocks and soft-bottom sediments. In addition, the Casitas Pier pilings provide submerged artificial substrates in the intertidal zone. The intertidal zone is a dynamic environment influenced in part by daily tidal fluctuations (leading to high concentrations of sunlight, and periods of aerial exposure) and wave forces. Organisms residing within the intertidal zone are characterized by hardy species that are capable of withstanding stresses associated with waves and daily tidal fluxes. Where it occurs, hard substrate provides habitat structure and a semi-permanent surface that algae, benthic, and sessile organisms may attach to. Areas with hard substrate within the intertidal zone (i.e., rocky intertidal) can be areas of rich species diversity and abundance; however, due to the seasonal deposition and retreat of sand from the beach, relatively few specialized species live in the dynamic sand habitat within the study

area. Commonly documented species include crustaceans such as sand crab (*Emerita analoga*), echinoderms, arthropods, polychaetes, and mollusks. Common intertidal species found on exposed rocks and pier pilings include mussels (*Mytilus californianus*), barnacles (*Balanus* spp.), various species of red and brown turf algae, and other biofouling bryozoans and non-native species.

The intertidal substrates throughout the nearshore study area includes mixed substrate types consisting of sand and exposed bedrock, as well as low to medium-relief rock reefs along the mean low-tide line. In general, substrate types are similar along the length of the shoreline within the study area with exposed rock located along the western edge of the lease boundary and on the east side of Casitas Pier where exposed rock reef provides haul-out habitat for a Pacific harbor seal (*Phoca vitulina richardii*) rookery.

Surf grass beds (*Phyllospadix* sp.) are commonly found along the southern California intertidal reefs and are known to provide cover and habitat structure for intertidal invertebrates and marine alga. Surf grass can be observed from shore growing on the surface of intertidal rocks in the study area and previous site visits during low tide events have identified surf grasses in subtidal habitats; however, its presence may fluctuate on a seasonal basis depending on the intensity of sand deposition or wave action. Further study will be required to determine if eelgrasses (*Zostera* sp.) is present in the study area. The nearest monitored eelgrass bed at a southern facing coastline is located approximately 18.5 miles northwest of the Project Site, in 20 to 25 feet of water offshore Goleta Beach (Santa Barbara Channelkeeper, 2010).

#### **4.1.3 Subtidal Habitats**

As with the intertidal zone, the mixed sedimentary and rock reef habitat continues offshore along the subtidal study area. Wave exposure, sediment grain size, and depth are the main physical factors that influence the composition of subtidal benthic communities. Soft substrate habitats with small sand grain size within the subtidal zone typically have a lower diversity and abundance of species than those areas with hard substrate. However, the sandy subtidal environments support communities of organisms that are unique to this environment, and as such are important to marine ecosystems. Organisms typically found in sandy subtidal environments include but are not limited to tube worms (*Diopatra ornate*), sand dollars (*Dendraster excentricus*), and various species of crabs, sea stars, snails, and demersal fish. The Casitas Pier is located within soft substrate habitat; therefore, the seafloor beneath the Pier is expected to be dominated by soft substrate species. In addition, the pier pilings provide man-made structure for subtidal organisms to attached to including mussels, barnacles, tunicates, bryozoa, porifera, anemones (*Anthopleura elegantissima*), decorator crabs (*Loxorhynchus grandis* and *L. crispatus*), sea stars (*Pisaster* sp., *Patiria miniata*) red rock crabs (*Cancer* spp.), and rock scallop (*Crassedoma giganteum*).

In subtidal areas off the southern California coast where hard/rocky substrate is available, giant kelp (*Macrocystis pyrifera*) communities (i.e., kelp forests) are often present. Kelp forests are an important part of the marine ecosystem in that they provide habitat structure and substrate surfaces for many epibiotic, benthic and sessile organisms, and provide food, shelter, and nursery habitat for migratory and resident species of fish, marine mammals, and invertebrates. Recent site visits and a historic review of satellite imagery (June 2002 through March 2020), as well as kelp bed data from CDFW identified a kelp bed located approximately 470 feet east from the

offshore end the Casitas Pier (Figure 2-1). Common fish species may utilize the kelp bed and near-by pier structure and shallow rock reefs for foraging and breeding. Species that are likely to occur include surfperches (*Embiotoca jacksoni*, *Rhacochilus vacca*), wrasses (*Oxyjulis californica*, *Halichoeres semicinctus*), and adult and young-of-year-rockfish (*Sebastes* spp.). In addition, there is the potential that juvenile bocaccio (*Sebastes paucispinis*), a CDFW managed special-status rockfish species, may occur within the subtidal study area.

#### 4.1.4 Pelagic and Benthic Habitats

The open water habitat within the offshore pipeline corridors support migration and foraging habitat for marine mammals, reptiles, and avifauna. Water depth between the subtidal zone and the boundary of California State waters (three nautical miles) ranges between approximately 30 to 148 feet (9 to 45 meters) and therefore would support species that are adapted to live at those depths. The primary substrates within the offshore segments of the pipeline corridor have been characterized as fine- to medium-grained smooth sediments, with infrequent areas of mixed smooth sediment and bedrock, coarse-grained sand, gravel, cobbles (Johnson et al., 2013). Remote Operated Vehicle (ROV) surveys have reported that the majority of the pipeline corridor is buried under soft sediments from approximately -45 to -140 feet and then intermittently exposed to the State waters limit (-148 feet) (Aqueos, 2019). Epifauna of deeper waters in sedimentary habitats and those species found growing or foraging on exposed pipeline segments include plumose anemone (*Metridium senile*), bat stars (*Patiria miniate*), and rockfish (*Sebastes* sp.).

## 4.2 WILDLIFE

The nearshore rocky coastline, sedimentary benthic seafloor, and open water habitat within the study area provide habitat for a wide variety of resident and migratory wildlife species. Special-status wildlife species (i.e., endangered, threatened, rare, or other special-status species) occurring, or potentially occurring, within the Project site and surrounding area are discussed in Section 4.5 below.

The composition, topography, water depth and other physical characteristics of marine communities determine the diversity and abundance of wildlife species residing in the study area. Wildlife species known to occur within the habitats present within the beach and offshore Project Site are discussed below.

### 4.2.1 Birds

Many bird species rely on intertidal and subtidal habitats and surf grass beds as places to rest or forage for food. Bird species with the potential to occur along the beach and intertidal habitat include semipalmated plover (*Charadrius semipalmatus*), whimbrel (*Numenius phaeopus*), marbled godwit (*Limosa fedoa*), sandpiper (*Calidris* spp.), and gulls (*Larus* spp.). Bird species that have a potential to occur within the subtidal habitat include but are not limited to western grebe (*Aechmophorus occidentalis*), surf scoter (*Melanitta perspicillata*), cormorants (*Phalacrocorax* spp.), and California brown pelicans (*Pelecanus occidentalis*).

Bird species commonly associated with nearshore open waters of the central and southern California coast have the potential to occur in the open waters of the Project site. These birds include but are not limited to western grebes, brown pelicans, loons (*Gavia* sp.), Cassin's auklet (*Ptychoramphus aleuticus*), cormorants, gulls, surf scoters, eiders (*Somateria spectabilis*), and



murres (*Uria aalge*). These marine bird species feed on small schooling fish, squid, and zooplankton, and forage in open water where prey is concentrated near the water's surface. In addition, several special-status species have the potential to migrate and/or forage in the offshore study area including California least terns (*Sterna antillarum*), Ashy storm petrels (*Oceanodroma homochroa*), and black storm petrels (*Oceanodroma melania*).

#### 4.2.2 Marine Invertebrates

The epifauna of the shallower sedimentary habitats typically includes several species of macro-invertebrates, including sea stars, Pacific sand dollars (*Dendraster excentricus*), and slender crabs (*Cancer gracilis*), as well as polychaete worms and mollusks. The rocky substrata tend to support a generally more diverse epibiota, comprised of macrophytic algae, urchins (*Strongylocentrotus* spp.), sea stars, and cnidarians (anemones and solitary corals).

Abalone are known to inhabit nearshore rocky reef habitats along the southern California coast. Black and white abalone (*Haliotis cracherodii* and *H. sorenseni*) are both federally endangered species protected under FESA and are considered rare in the study area. Black abalone live in rocky intertidal and subtidal reefs (out to 18 feet deep) where they are generally found in rock crevices and feed on drifting giant kelp (*Macrocystis*) and feather boa kelp (*Egregia menziesii*). White abalone live on rocky substrates alongside sand channels and are found at depths of 50 to 180 feet. They feed on algae that accumulates within the sand channels between deep rock reefs and are more often found out of crevices but camouflaged by the algae that grows on their shells. Other abalone species that could be found in the study area include red (*H. rufescens*), pink (*H. corrugate*), green (*H. fulgens*), and pinto (*H. kamtschatkana*), whose populations are managed by CDFW.

#### 4.2.3 Fish

Fish assemblages off southern California are comprised of both year-round residents and migratory species. The abundance of some year-round residents, such as northern anchovy (*Engraulis mordax*), may fluctuate considerably as new cohorts of juveniles migrate inshore or develop from larvae during spring and summer months. Substrate composition, wave exposure, depth, and presence of kelp or seagrass often determine fish species composition in a particular area. The study area provides habitat for demersal species, such as sanddabs (*Citharichthys* spp.), California halibut (*Paralichthys californicus*), or Pacific staghorn sculpin (*Leptocottus armatus*) that are associated with soft substrates. Other species such as white croaker (*Genyonemus lineatus*) or barred surfperch (*Amphistichus argenteus*) inhabit the water column but feed on invertebrates living in the substrate. Still others are restricted mainly to the water column, such as anchovy, sardine (*Sardinops sagax*), topsmelts (*Atherinidae*), striped bass (*Morone saxatilis*), or white seabass (*Atractoscion nobilis*), where they feed on midwater plankton or other midwater fishes. Isolated hard substrate features may occur at a small portion of the open water study area. These hardbottom deeper reefs attract different assemblages of fishes, primarily rockfish (*Sebastes* sp.), which could transit through the region during localized movements.

Grunion (*Leuresthes tenuis*) is a member of the silverside family (*Atherinidae*) that uses sandy beaches from Monterey Bay to Central Baja California for spawning. Twice a month, at new and full moons between March and early September, grunions come ashore during the two or three nights following the highest tide. Grunion bury their eggs four to five inches below the surface, with maturation occurring in ten days. The next spring high tide reaches the eggs, induces

them to hatch, and carries the larvae offshore where they mature. Grunion runs are more common along northern Santa Barbara County Beaches; however, there is the potential the species may occur seasonally within the study area.

#### 4.2.4 Marine Mammals and Sea Turtles

Baleen whales, toothed whales (including dolphins), and pinnipeds (California sea lion [*Zalophus californianus*] and Pacific harbor seal [*Phoca vitulina richardsi*]), could occur in the study area, in addition to an active rookery for Pacific harbor seal on the exposed rock and sandy beach on the east side of the Casitas Pier. The harbor seal rookery is discussed further below in Section 4.4.1.3 (Pinniped Haul-Outs). Some species of marine wildlife are seasonally present within the study area while others are resident species. All marine mammals are protected by the Marine Mammal Protection Act (MMPA) of 1972, and all sea turtles in U.S. waters are listed under the Federal Endangered Species Act (FESA). These laws are overseen by the National Marine Fisheries Service (NMFS). Marine mammals and sea turtle are discussed below in Sections 4.3, 4.4, and 4.5. Although rarely encountered, marine turtles occasionally are reported within waters off the southern California coast, and could potentially occur within the study area. Populations of marine turtles have been greatly reduced due to over harvesting and loss of nesting sites in tropical coastal areas. Sea turtles breed at sea and the females return to their natal beaches to lay their eggs; however, sea turtles do not nest anywhere along the California coast. The four listed sea turtles that may occur within the study area include the endangered Leatherback turtle (*Dermochelys coriacea*) and Loggerhead turtle (*Caretta caretta*), and the threatened Green turtle (*Chelonia mydas*) and Olive Ridley turtle (*Lepidochelys olivacea*). Although several occurrences of sea turtles have been documented off the southern California coast, the likelihood of their occurrence in the study area is considered low.

##### 4.2.4.1 Marine Mammal Hearing and Noise Thresholds

NMFS, in coordination with National Oceanic and Atmospheric Administration (NOAA), has identified acoustic threshold (received sound level) criteria above which marine mammals are predicted to experience changes in their hearing sensitivity, either permanent or temporary hearing threshold shifts (PTS or TTS, respectively). Physiological responses such as auditory or non-auditory tissue injuries are known as Level A Harassment in the MMPA and harm in the FESA. Level A Harassment becomes a concern when the sound levels from human-made sounds reach or exceed the acoustic thresholds associated with auditory injury in marine species. PTS is a permanent, irreversible increase in an animal's auditory threshold within a given frequency band or range of the animal's normal hearing. TTS is a temporary, reversible increase in the threshold of audibility at a specific range of frequencies. While TTS is not an injury, it is considered Level B Harassment by the MMPA and harassment by the FESA. In addition, along with TTS, Level B harassment includes behavioral impacts. Several variables can characterize sound, including frequency and intensity. Frequency describes the pitch of a sound and is measured in hertz (Hz), while intensity describes the loudness of a sound (i.e., sound pressure level [SPL]) and is measured in decibels (dB), which are measured using a logarithmic scale (e.g., a 10-dB increase represents a 10-fold increase in sound intensity). Sound intensity for underwater applications is typically expressed in dB referenced to in units of pressure in micropascals (1  $\mu\text{Pa}$ <sup>1</sup>).

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<sup>1</sup> 1  $\mu\text{Pa}$  is the reference sound pressure for sound in water.

General underwater Project activities such as jetting, pipe-cutting, vessel transit, as well as construction equipment on the surface, have the potential to temporarily increase ambient noise levels in the local marine environment. While tidal currents and waves produce hydrodynamic sounds, which register at very low frequencies (<100 Hz), ship traffic and underwater construction noise can range from 10 to 1000 Hz (USACE 2015).

Disturbing, harassing, injuring, or killing a protected species is prohibited by the MMPA. General underwater construction noise levels, related to pipe cutting and underwater excavation, are not anticipated to exceed harassment thresholds published by NMFS in the *Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing*. The major contributors to underwater noise from excavation jetting include sounds involving the movement of sediment, water, and air against the seabed, and ship machinery sounds associated with the lowering and lifting of equipment. Project vessels produce noise primarily with their propellers, motors, and gears. The faster the propeller rotates the more cavitation noise, and the higher the frequency of noise produced (i.e., a slowly rotating propeller generates low frequencies [below 10 Hz] and a faster spinning propeller can produce frequencies up to 20 kilohertz [kHz]). Noise levels from marine vessels can range from <150 dB re 1  $\mu$ Pa<sub>2s</sub> to over 190 dB re 1  $\mu$ Pa<sub>2s</sub> at 1 meter from the sound source (USACE 2015). Underwater pipe-cutting and shearing can increase noise levels in the immediate work area with disturbance of sediments and operating machinery; however, the noise levels differ from site to site depending on seafloor substrates, water depth and specific equipment. At close ranges, underwater equipment sound levels can have physiological and behavioral effects on fish and marine wildlife; however, marine wildlife will likely avoid underwater work areas and equipment and would not stay close enough to the equipment to experience injury or mortality. Marine wildlife will likely leave the area of their own volition and disperse to available and suitable habitat within the greater Project region; therefore, marine wildlife are not expected to experience impacts from underwater construction noise.

Beach/bluff and Surf Zone construction noise, related to operating heavy equipment, concrete demolition and ground disturbance has the potential to temporarily increase noise levels adjacent to the harbor seal rookery discussed in detail in Section 4.4.1.3. The NMFS has established in-air sound thresholds for sea lion and harbor seals that are set at 100 dB and 90 dB, respectively. The harbor seal rookery is largely abandoned in the summer and fall, due to unrestricted, seasonal public access and beach activities, which will correspond to when the proposed beach and offshore Project activities will occur; therefore, Project activities are not expected to cause incidental harassment of marine mammals.

#### **4.2.5 Non-Native Aquatic Species**

Non-native aquatic species (NAS), also known as non-indigenous species, include plants, animals, and micro-organisms that have been introduced to new regions through various human activities. In coastal environments, commercial shipping is the most significant vector for invasions, and vessel biofouling and ballast water are considered the primary contributors of NAS. Once established, NAS can cause significant ecological, economic, and human health problems in the receiving environment, including altering the structure and function of ecosystems, causing declines in native and commercial fisheries, and spreading human pathogens. CDFW recognizes 347 NAS with established populations in California coastal waters (CDFW Office of Spill Prevention and Response [OSPR], 2014). The origin of many NAS is unknown; however, the

majority of NAS in California appear to be native to the northwest Pacific or northeast Atlantic. NAS could be present on the pilings of Casitas Pier or on exposed segments of Project pipelines.

*Caulerpa taxifolia* is an invasive alga with bright green, feathery, fern-like fronds that is native to tropical waters and has been a nuisance in southern California harbors. It can form dense mats and grow up to three inches per week, displacing native aquatic plants and animals. *Caulerpa* has the potential to significantly reduce the native diversity and abundance of marine algae and animals once it has invaded. *Caulerpa taxifolia* can grow in shallow coastal lagoons as well as in deeper ocean waters, possibly to depths of greater than 150 feet (nearly 50 meters). Prior to offshore decommissioning activities, focused marine biological surveys will be completed to determine the presence or absence of *Caulerpa* within the offshore the Project site in accordance with the standard resource agency requirements.

#### **4.3 WILDLIFE CORRIDORS**

Multiple species of cetaceans (whales and dolphins,), marine turtles, and pinnipeds (seals and sea lions) have been recorded within the State waters offshore Santa Barbara County. Most of the species can occur for long durations within the greater Project region, although seasonal abundances of these taxa vary; pinnipeds and some dolphins are year-round residents. For example, Pacific harbor seals and California sea lions are year-round residents within the study area and utilized several beaches, rocky headlands, as well as floating docks and pier loading decks as haul-out areas.

Other marine species are migratory, such as the gray whale (*Eschrichtius robustus*), or seasonal, such as the humpback whales (*Megaptera novaeangliae*) and are more abundant during specific months. Large, baleen whales are known to spend the summer months feeding in northern latitudes building up fat stores to sustain them through the winter and then migrating to warmer, sheltered waters in Baja California, Mexico, Hawaii, and/or Central America for calving and breeding during winter months. Large baleen whales may be present in the study area during their migrations through the Santa Barbara Channel in areas where convergence zone produce large aggregations of prey, such as krill, small schooling fish, and squid. There are no known cetacean breeding areas offshore California; however, there are several Biologically Important Areas (BIAs) for blue and humpback whales offshore of the Project area, which are based on known areas for high-concentration of feeding animals. BIAs for gray whales are based on their migratory corridor as they transit between primary feeding areas located in northern latitudes and breeding areas offshore Mexico (Calambokidis et al., 2015). The BIAs are primarily centered along areas near the continental shelf edge in waters that are deeper than the Project area. Whales are at their highest densities in these areas from June to October when prey species present and water temperatures are favorable.

Blue and Humpback whale feeding BIAs are located within the Santa Barbara Channel and around San Miguel Island. Blue whales are seasonally more likely to occur in the Project area and within the greater Santa Barbara Channel between June and October, while Humpback whales are seasonally more likely to occur between March and September (Calambokidis, 2015).

Gray whale migration BIAs are present along the entire coast of California. The migration corridor used by most gray whales is within 6 miles (10 kilometers) of the coast, including the Channel Islands, and those whales with calves will migrate closer to the coast during their



Northbound transit (Calambokidis et al., 2015). Gray whales can be seasonally present in the Project area during their southern migration from October to March and then again from late January to July, peaking in April.

In addition to the regional convergence zones that provide coastal upwelling and foraging opportunities, the California Channel Islands provide essential nesting and feeding grounds for 99 percent of breeding seabirds in Southern California (Argonne National Laboratory, 2019). The Project region supports a diverse assemblage of birds due to the area's unique location along the Pacific Flyway migration corridor. Over 400 species of bird are recorded migrating to the Channel Islands which provide essential feeding and nesting grounds for 99 percent of the breeding seabirds in Southern California, and important wintering areas and stop over points for shore birds (Argonne National Laboratory, 2019). The spring coastal seabird northern migration, which begins in late February, is in full swing by mid-February, with the peak movement of hundreds of individual birds occurring between late March and early May (Lehman, 2019). Pelagic species begin to arrive offshore in early May to mid-June, such as phalaropes, jaegers, several alcid, Black-footed Albatross, shearwaters, and storm-petrels. During early June the last of the shorebirds and coastal seabirds are still moving north. Southbound transient and migrant shorebirds begin to arrive in Santa Barbara County by late June and large numbers are present by the end of July; however, due to the region's temperate climate fall migration is quite protracted, with large numbers of migrants still present between mid-August and mid-November, as well. However, southbound transients pass slightly farther offshore and are harder to detect in large numbers from along the southern coast of Santa Barbara County.

The Project Site does not include areas around the Channel Islands; however, the Project region is known as a migration corridor between offshore foraging and island nesting areas.

#### **4.4 SENSITIVE HABITATS AND PROTECTED AREAS**

##### **4.4.1.1 Marine Protected Areas**

MPAs are afforded protection with the CDFW under the Marine Life Protection Act. The following designations are managed within the West Coast MPA network: State Marine Reserve (SMR), State Marine Conservation Area (SMCA), and State Marine Recreational Management Area (SMRMA). The closest MPA to the Project site is the Goleta Slough SMCA, which is located approximately 19 miles (mi) (30 kilometers [km]) west of the study area. Project activities will not occur within an MPA.

##### **4.4.1.2 Critical Habitats**

The study area is not within a designated critical habitat area for marine species. The nearest aquatic critical habitat is designated for southern California steelhead and is located approximately one mile west of the study area within Carpinteria Lagoon as well as Rincon Creek, located approximately two miles southeast of the study area (Hydrologic subarea 331534); however, Project activities will not occur within critical habitat areas (NMFS, 2005).

##### **4.4.1.3 Pinniped Haul-Outs**

The California south coast provides a diversity of haul-out locations such as rocky shorelines, sandy beaches, estuaries and mudflats. California sea lion and harbor seals have several haul-outs along beaches and on shallow, rocky outcroppings.

The Carpinteria Harbor Seal Rookery and Preserve (rookery) is located adjacent to the study area approximately 160 feet east of the Casitas Pier (Figure 4-1). The rookery is accessible to the public during low tides to the west from Carpinteria Beach State Park and from Rincon Point to the east. The bluffs overlooking the colony are on private property now owned by Chevron, who continues to allow public access for viewing of the harbor seal rookery. The next nearest mainland harbor seal rookery is at the Mugu Lagoon, at Pt. Mugu Naval Air Warfare Center in Ventura County, making the Carpinteria rookery one of a few known active harbor seal rookeries in Southern-central California.

In addition to year-round Federal and State protections, the City of Carpinteria closes the beach surrounding the rookery for 750 feet (230 meters) to the east and west of the colony from December 1 through May 31 of each year to protect breeding seals and seal pups. Public access and projects related to oil field operations are not allowed on this part of the beach during the seasonal closure. In addition, waters out to 1,000 feet (305 meters) offshore from the closed beach area is restricted to personalized watercraft; however, offshore oil-field related crew and supply vessels are exempt from this law. In addition to the City legislation, the Coastal Land Use Plan for Santa Barbara County includes marine mammal haul-out and pupping grounds as environmentally sensitive habitat areas (ESHA).

The local harbor seal population has been monitored and counted on annual basis since 1982 (MRS, 2008). In addition, the Carpinteria Seal Watch volunteers provide counts on a daily basis during the harbor seal breeding season (end of January to late-May). Due in large part to the beach closure ordinance and the efforts of the Seal Watch volunteers, the local breeding population has continued to expand from 13 seals in 1977 to a maximum of 240 seals (adults and pups) recorded in May 2017 (MRS, 2008; Carpinteria Seal Watch, 2021). However, these numbers are potentially underestimating the overall local population given that the best time to assess population numbers is during molting season in the summer and fall, when the greatest number of animals haul-out (MRS, 2008). Since the beach is open to the public during the molting season, this rookery is largely abandoned in the summer and fall, which will correspond to when the proposed beach and offshore Project activities will occur. The most recent State-wide count of harbor seals was conducted in 2012 and estimated there are 27,348 seals and that the population has been stable since 2009 but decreased since counts in 2004.

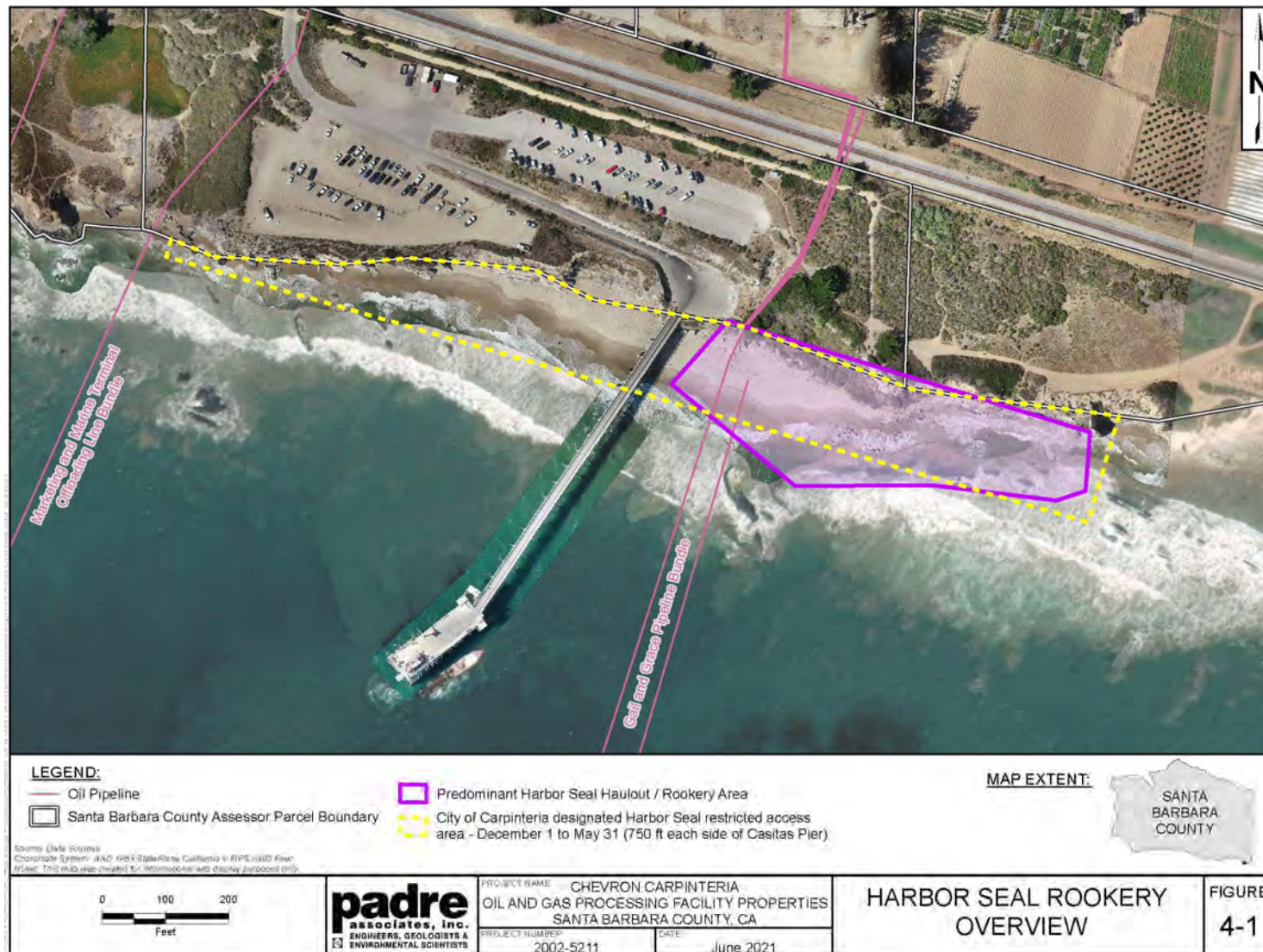


Figure 4-1. Harbor Seal Rookery Overview

#### 4.4.1.4 Essential Fish Habitat

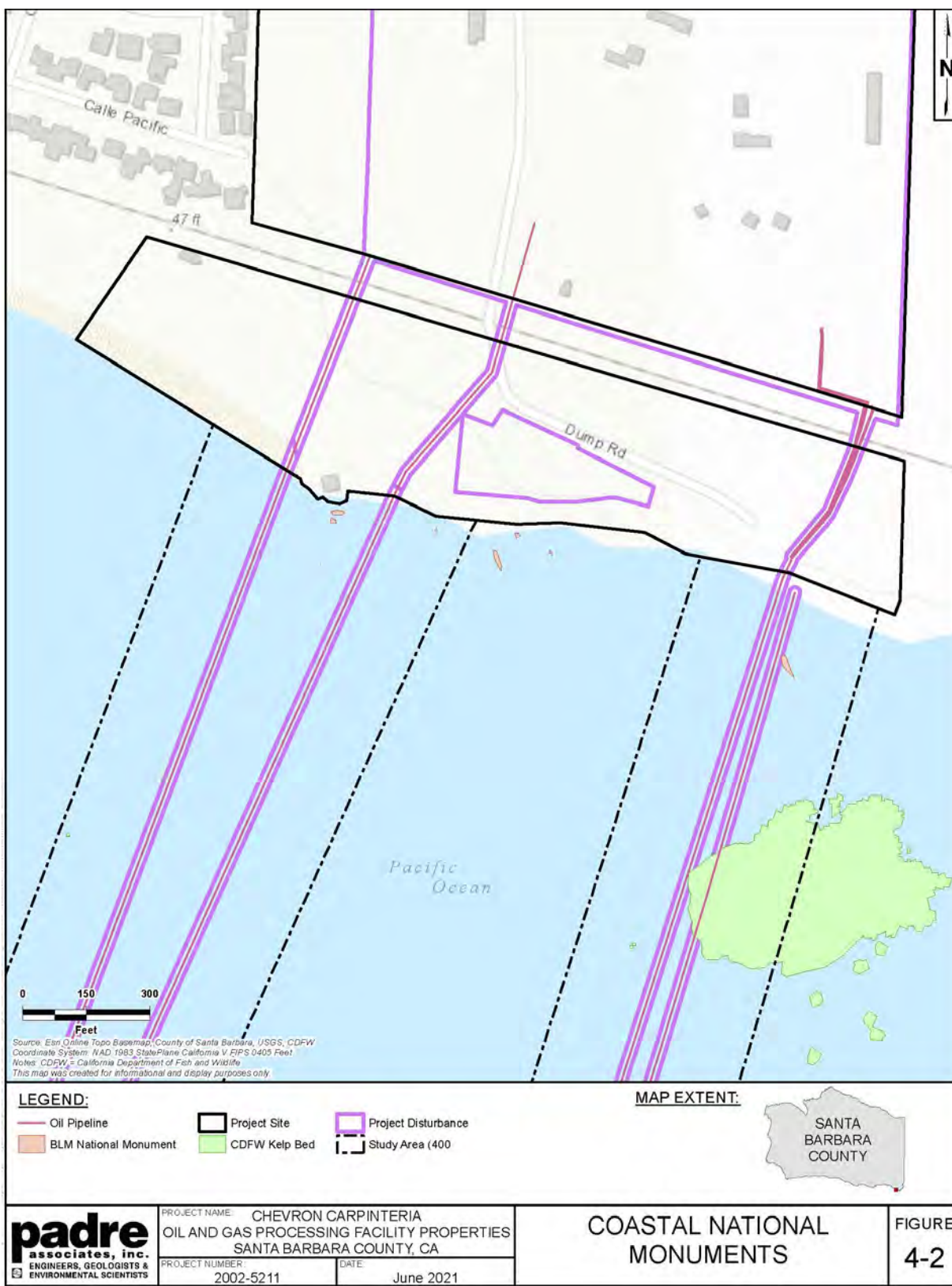
The Magnuson-Stevens Fishery Conservation and Management Act (MSA) defined essential fish habitat (EFH) as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” According to the NMFS, EFH can include sediment, hard bottom, underwater structures, and associated biological communities (PFMC, 2005). Section 303, subdivision (a)(7) of the MSA requires fishery management councils to identify EFH. EFH that is judged to be particularly important to the long-term productivity of populations of one or more managed species, or to be particularly vulnerable to degradation, should be identified as habitat areas of particular concern (HAPC).

Based on the proposed activities and the assessment of existing habitats, only the adjacent kelp beds within the eastern side of the study area represent essential habitat for managed species (see inset on Figure 2-1). By avoiding these features, the impacts related to removal of the pipelines and associated diver activities are not considered significant impact to the EFH of any of the managed species that could occur within the area. There are no HAPCs designated for highly migratory or coastal pelagic species; and there will be no impacts to EFH for those species. Offshore decommissioning activities will be limited to narrow corridors and distinct anchor points within a sedimentary or sandy seafloor. The sedimentary bottom will be disturbed only during removal activities and Project vessels will not anchor in hard bottom habitat or within areas of sensitive resources. Refer to Appendix C4 - Essential Fish Habitat for a detailed analysis of EFH within the study area.

#### 4.4.1.5 California Coastal National Monument

The California Coastal National Monument managed by the Bureau of Land Management (BLM) provides unique habitat for marine-dependent species on more than 20,000 rocks, islands, exposed reefs, and pinnacles, as well as 7,924 acres of public land at six onshore units: Trinidad Head, Waluplh-Lighthouse Ranch, Lost Coast Headlands, Point Arena-Stornetta, Cotoni-Coast Daires, and Piedras Blancas. The rocky headlands within the California Coastal National Monument provide foraging and roosting areas, nesting habitat for breeding seabirds and haul-outs for marine mammals. The offshore rocks included in the Monument are those exposed above mean high tide within 12 nautical miles of the California mainland. Approximately seven rock features of Monument land, are present within the study area (Figure 4-2). The Monument rock features partially correspond with the protected harbor seal haul-out and rookery and intertidal habitat located within the surf zone. Monument lands will be avoided and will not be disturbed or altered during Project decommissioning activities.





**Figure 4-2. Coastal National Monument in Study Area**

#### 4.5 SPECIAL-STATUS SPECIES

For the purposes of this Study, a special-status species is a plant or animal species that is:

- Listed as endangered, threatened, or a candidate species under the Federal Endangered Species Act (FESA);
- Listed as endangered, threatened, or a candidate species under the California Endangered Species Act (CESA);
- Listed as a species of special concern by the CDFW;
- Marine mammal species afforded protection by National Marine Fisheries Service (NMFS) under the Marine Mammal Protection Act (MMPA);
- A species that would occur in Habitat Areas of Particular Concern (HAPC) within Essential Fish Habitat (EFH); and/or
- Considered rare, threatened, or endangered under California Environmental Quality Act (CEQA) Guidelines 15380(d) as the species' survival is in jeopardy due to loss or change in habitat.

Based on the literature review and species lists obtained from USFWS (IPaC Trust Resource Report) (Consultation code: 08EVEN00-2021-SLI-0413) and from NMFS (NMFS, 2021) for the Carpinteria quadrangle, a list of special-status species that have been reported within a five-mile radius surrounding the Project site has been compiled. Special-status species with occurrences within five miles of the site that were considered for potential occurrence on the Project site are listed in Table 4-1. Table 4-1 also includes rationale for why certain species were considered unlikely to occur or absent from the study area.

An analysis of the likelihood of occurrence for each species was conducted on the basis of species ranges, previous observations, contemporary sightings, and presence of suitable habitat elements. The Project may be located outside of the known range of some species, or within the geographic range for a certain species, but suitable habitat, such as nesting, migrating corridors or deep-water habitats are absent from the study area.

**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<b>PLANTS</b>				
<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	Salt Marsh Bird's-beak	FE	Marshes and swamps, coastal dunes, limited to the higher zones of salt marsh habitat.	<b>Absent.</b> No suitable habitat present.
<i>Phyllospadix</i> spp.	Surf grass	HAPC	Intertidal rocky substrate in areas with turbulent surf.	<b>Present.</b> Species observed on intertidal rocks within study area.
<i>Zostera marina</i> and <i>Zostera pacifica</i>	Eelgrass	HAPC	Soft or sandy sheltered seafloor typically in shallow bays or estuaries 0.5 ft to 12 feet (0.1 to 3.7 meters) ( <i>Zostera marina</i> ) and subtidal habitats along protected coastlines ( <i>Zostera pacifica</i> ) from 13 to 56 feet (4 to 17 meters).	<b>Moderate.</b> Suitable habitat occurs within study area. Nearest recorded bed occurs in the Ventura Marina, approximately 17 miles southeast of the study area (Sherman and DeBruyckere, 2018).
<b>INVERTEBRATES</b>				
<i>Haliotis cracherodii</i>	Black abalone	FE	Intertidal and subtidal habitats from upper intertidal to 20 feet (6 meters) depth between Point Arena, California to Bahia Tortugas, Mexico. Most commonly observed in complex habitats with deep crevices and drift macroalgae.	<b>Low.</b> Suitable habitat is patchy within study area. Nearest occurrence is located at Coal Oil Point Reserve, approximately 21 miles west of the study area (MARINE, 2021).
<i>Haliotis sorenseni</i>	White abalone	FE	Low relief, rock reefs or boulder habitat surrounded by sand between 98 and 196-foot (30 and 60-meter) depths.	<b>Low.</b> Lack of suitable habitat within preferred depths within study area. Patchy habitat and small populations are present along Santa Barbara coasts; however, exact occurrence location information is not available.

**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<b>FISH</b>				
<i>Acipenser medirostris</i>	Green sturgeon – Southern DPS	FT, CSC	Anadromous fish species found in near shore marine and estuarine environments from Alaska to Baja California, Mexico. Juveniles have been collected in the San Francisco Bay up to the lower reaches of the Sacramento and San Joaquin Rivers. Green sturgeon depend on large rivers to spawn, typically in deep pools in large turbulent mainstem rivers. Spawning is documented in Sacramento River, but little is known about specific spawning locations.	<b>Low.</b> The Project is outside of the species' known spawning range. A small number of green sturgeons have been historically reported from the southern California coast. A mature green sturgeon was reported to be caught near Dana Point, Orange County in 1978, but there are no recent observation of green sturgeon within the study area.
<i>Oncorhynchus mykiss</i>	Southern California steelhead	FE	Marine dispersal and rearing habitats consist of nearshore vegetative cover for shelter and prey base near natal rivers/streams.	<b>Low.</b> Minimal suitable dispersal habitat present in nearshore study area. Historically present in Carpinteria and Rincon Creeks, approximately one to two miles from the study area, respectively.
<i>Eucyclogobius newberri</i>	Tidewater goby	FT	Lagoons and estuaries where water salinity is less than 12 parts per million and water depth between 3 and 9 feet (one and 3 meters) deep. Marine dispersal is rare and species has no dependency on marine habitats.	<b>Absent.</b> No suitable habitat present in study area.
<i>Sebastes paucispinis</i>	Bocaccio	FE (Puget Sound/Georgi a Basin DPS), CSC	Shallow water to over 1,000 ft (305 m) deep, over rocky-reefs and soft bottom habitats, but there is strong site fidelity to rocky bottoms and outcroppings	<b>High.</b> Suitable habitat areas of exposed pipeline, at deep rock reefs or dispersing through the offshore Project site. Bocaccio are commonly observed beneath Platforms Gail and Grace. (Love et al., 2012).



**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<b>REPTILES</b>				
<i>Chelonia mydas</i>	Green sea turtle	FT	Nest at high energy beaches on Ascension Island, Aves Island, Costa Rica and Florida in the U.S. Utilize pelagic convergence zones as juveniles and shallow coastal zones as adults. Small populations inhabit southern San Diego Bay and Long Beach/Seal Beach harbors in Southern California.	<b>Low.</b> No suitable nesting or foraging habitat present. Potential migration corridor in offshore study area. Green turtles are rarely observed north of Port of Long Beach in California.
<i>Caretta caretta</i>	Loggerhead sea turtle	FT	Inhabit tropical and temperate waters along continental shelves and estuaries. Rarely observed in Southern California. Nests along coasts of Florida up to North Carolina.	<b>Low.</b> No suitable nesting or foraging habitat present. Potential migration corridor in offshore study area. Loggerhead turtles are rarely observed north of San Diego.
<i>Lepidochelys olivacea</i>	Olive Ridley sea turtle	FT	Oceanic and neritic zone migrations in eastern Pacific. Rarely observed along the southcentral coast of California. Nesting from Sonora, Mexico to Columbia and the Galapagos Islands in large arribadas.	<b>Low.</b> No suitable nesting or foraging habitat present. Potential migration corridor in offshore study area. Olive Ridley turtles are rarely observed north of San Diego.
<i>Dermochelys coriacea</i>	Leatherback sea turtle	FE	Western Pacific leatherbacks nest in Indonesia and Papua New Guinea and migrate to California central coast following prey jellyfish and sea nettles. Observed offshore central California coast May through December.	<b>Low.</b> No suitable nesting habitat present. Potential migration and foraging opportunities based on prey availability within study area; however, leatherback turtles are rarely observed offshore Santa Barbara County.

**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<b>BIRDS</b>				
<i>Phoebastria (=Diomedea) albatrus</i>	Short-tail albatross	FE, CSC	Breeding colony occurs on Torishima Island off Japan. Non-breeding population utilized pelagic habitat along Pacific Rim to Gulf of Alaska. Primarily juveniles will use California coastal waters to feed on squid, crustaceans, and fish.	<b>Low.</b> Breeding habitat does not occur in study area. Low potential for juvenile birds to occur in study area during fall and early winter (Argonne National Lab, 2019).
<i>Brachyramphus marmoratus</i>	Marbled murrelet	FT, SE	Nest in old growth forests in San Francisco area and Pacific Northwest. Forage in nearshore marine habitats on pelagic fish and invertebrates.	<b>Low.</b> Potential nearshore foraging habitat present during late summer/fall migration. Nesting habitat is not present in the study area.
<i>Synthliboramphus scrippsi</i>	Scripps's Murrelet	ST	Pelagic birds that nest on islands in southern California including San Miguel, Santa Cruz, Anacapa, Santa Catalina, San Clemente, and Santa Barbara island. Feed offshore on schooling fish and zooplankton in ocean fronts where prey aggregates.	<b>High.</b> Suitable foraging and migrating habitat present in study area. Nesting habitat is not present in study area.
<i>Oceanodroma homochroa</i>	Ashy Storm Petrel	CSC	Pelagic; feed at night on cephalopods, crustaceans, and small fish at waters surface. Nests on South Farallon, Santa Barbara, Prince, and Santa Cruz Islands.	<b>High.</b> Suitable foraging and migrating habitat present in study area. Nesting habitat is not present in study area.

**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<i>Oceanodroma melania</i>	Black storm petrel	CSC	Pelagic; forage over open water for larval spiny lobster, cephalopods, small fish and crustaceans. Nests on Santa Barbara Island and Sutil Island.	<b>High.</b> Suitable foraging and migrating habitat present in study area. Nesting habitat is not present in study area.
<i>Sterna antillarum browni</i>	California least tern	FT	Breeds on sandy beaches with minimal vegetation close to estuaries and embayments. Nearest breeding colony is located at McGrath Beach, approximately 17 miles south of the study area.	<b>Moderate.</b> Potential nearshore foraging habitat present during early spring migration. Nesting habitat is not present in the study area.
<i>Charadrius nivosus nivosus</i>	Western snowy plover	FT, CSC	Nests above the drift zone in sandy depressions on dune-backed, sparsely vegetated beaches. Forages for invertebrates from the swash zone to the macrophyte wrack line, on salt flats and along edges of salt marshes and salt ponds.	<b>Present.</b> Species observed during non-breeding season (fall and winter) on beaches in study area. Suitable nesting habitat is not present in study area.
<b>MAMMALS</b>				
<i>Delphinus capensis</i>	Long-beaked common dolphin	MMPA	Pelagic; found in large pods (100 to 500 individuals) in shallow, tropical, subtropical, and warmer temperate waters within 50 to 100 miles of the coast and along the continental shelf.	<b>High.</b> Suitable foraging habitat present in offshore study area within deeper water depths. Commonly observed in the Santa Barbara Channel.

**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<i>Delphinus delphis</i>	Short-beaked common dolphin	MMPA	Pelagic; found in large groups up to thousands in cool temperate water along continental slope in waters 650 to 6,500 feet deep, but in California are common from coast to 300 miles offshore.	<b>High.</b> Suitable foraging habitat present in offshore study area within deeper water depths. Commonly observed in the Santa Barbara Channel.
<i>Tursiops truncatus</i>	Bottlenose dolphin	MMPA	Coastal and Pelagic; circumglobally temperate and tropical waters in harbors, bays, estuaries, as well as nearshore coastal waters, and deeper waters over the continental shelf.	<b>High.</b> Suitable foraging habitat present in offshore study area within nearshore water depths. Commonly observed in surf zone offshore Santa Barbara County and in the Santa Barbara Channel.
<i>Grampus griseus</i>	Risso's dolphin	MMPA	Pelagic; prefer deeper water (3,300 feet) but can be found feeding around continental shelf following primary prey, squid.	<b>High.</b> Suitable foraging habitat present in offshore study area within deeper water depths. Commonly observed in the Santa Barbara Channel.
<i>Balaenoptera musculus</i>	Blue whale	FE	Pelagic; Inhabit broad areas throughout the eastern North Pacific. Concentrations of blue whales have been documented feeding off California each summer and fall.	<b>Moderate.</b> Migration habitat is present offshore study area. Blue whales are commonly observed outside the study area in deeper waters, foraging around oil and gas platforms.
<i>Eschrichtius robustus</i>	California gray whale	MMPA	Coastal and Pelagic; migrate through coastal shallow waters in fall and early spring. Breed in warm, shallow lagoons in Baja California. Feed in shallow softbottom habitats on benthic and epibenthic invertebrates by filtering sediments.	<b>High.</b> Migration corridors and suitable foraging habitat located in study area. Most likely to be present in study area mid-February through May. Breeding grounds are not present within study area.



**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<i>Megaptera novaeangliae</i>	Humpback whale	FE (Central America DPS) FT (Mexico DPS) <sup>3</sup>	Coastal; feed in convergence zones where aggregations of krill occur. Populations off California migrate from Mexico DPS and Central America DPS to feed during summer and fall.	<b>High.</b> Suitable migration and foraging habitat are present in offshore and nearshore study area. Commonly observed offshore Santa Barbara County and in Santa Barbara Channel during summer and fall.
<i>Balaenoptera acutorostrata</i>	Minke whale	MMPA	Coastal and pelagic; prefer temperate to boreal waters but are found in tropical and subtropical areas. Minke whales in California/Oregon/Washington are considered residents that do not migrate and establish home ranges. Feed on schools of small fish, crustaceans, and plankton.	<b>High.</b> Suitable foraging habitat is present in offshore and nearshore study area. Commonly observed offshore Santa Barbara County and in Santa Barbara Channel during summer and fall.
<i>Balaenoptera physalus</i>	Fin whale	FE	Pelagic migrations from Arctic and Antarctic feeding areas in summer to tropical breeding and calving areas in the winter.	<b>Low.</b> Suitable migration and foraging water depths are not present within study area. Fin whales are observed west of the Channel Islands.
<i>Eubalaena glacialis</i>	Northern right whale	FE	Mostly occur in central North Pacific and Bering sea. Spend summers in far northern feeding grounds and migrate south to warmer water in southern California.	<b>Low.</b> Species rarely observed offshore Santa Barbara County. Migration routes/patterns unknown. Observations have been recorded in southern California during winter months.
<i>Physeter macrocephalus</i>	Sperm whale	FE	Offshore deep waters, with highest abundance off California from April to mid-June and from August to mid-November.	<b>Low.</b> Suitable migrating and foraging water depths are not present in study area. Sperm whales are occasionally observed west of Channel Islands.

**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<i>Balaenoptera borealis</i>	Sei whale	FE	Offshore deep waters away from the coastline. Unpredictable distribution. Breeding areas unknown.	<b>Low.</b> Suitable foraging water depths are not present in the study area. Rarely observed offshore California. Migration patterns and breeding areas are not well understood.
<i>Orcinus orca</i>	Southern resident Killer Whale	FE	Southern resident killer whale stock consists of a small population off British Columbia, Washington and Oregon. Forage widely along the outer coast of the North Pacific where they follow chinook salmon runs as well as inland waters of the Puget Sound in spring and summer.	<b>Low.</b> Study area is outside of the range of federally endangered Southern Resident killer whale DPS.
	West Coast Transient killer whales	MMPA	The West Coast Transient killer whales can be observed in offshore Monterey Bay from April through June feeding on marine mammals and migrating Gray Whale calves. This stock is not a federally listed species.	<b>Moderate:</b> Suitable migrating and foraging habitat for west coast transient killer whale occurs in study area. Sighting of transient killer whales are rare but are occasionally observed near Channel Islands.
<i>Zalophus californianus</i>	California sea lion	MMPA	Coastal and beach areas; feed in coastal areas and influenced by anthropogenic structures and fishing activity. Prefer sandy beaches for haul-out or rocky coves for breeding.	<b>High.</b> Suitable foraging and haul-out habitat is present in study area. The study area does not support any known rookeries.
<i>Phoca vitulina richardsi</i>	Pacific harbor seal	MMPA	Coastal and beach areas; temperate and coastal habitats within 15 to 31 miles of their natal areas. Perform shallow and deep dives for fish, shellfish, and crustaceans.	<b>Present.</b> Rookery and haul-out site present in study area on east side of Casitas Pier, Carpinteria Beach.

**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<i>Arctocephalus townsendi</i>	Guadalupe fur seal	FT	Offshore southern California and the Pacific Coast of Mexico. Breed on coastal rocky habitats and caves of Guadalupe Island, Mexico. Recently, few pups have been born on San Miguel Island.	<b>Low.</b> Suitable haul-out and rookery habitat is not present in study area and non-breeding season distribution is not well understood. Rare strandings of immature Guadalupe fur seal can occur on beaches between California and Washington states.
<i>Callorhinus ursinus</i>	Northern fur seal	MMPA	Pelagic and coastal; spend most of the year in the ocean. Nocturnal and solitary species. Breeds on rocky and sand beaches of San Miguel Island. May migrate north during summer or some animals are residents around San Miguel Island.	<b>Moderate.</b> Suitable haul-out and rookery habitat is present in study area; however, fur seals have not been observed utilizing mainland habitats. Potential foraging habitat available in offshore study area.
<i>Enhydra lutris nereis</i>	Southern sea otter	FT	Coastal; forage and breed in shallow coastal waters associated with giant kelp beds ( <i>Macrocystis</i> ) and bull kelp ( <i>Nerocystis</i> ). Feed on shallow water invertebrates and crustaceans. Current range extends from Pigeon Point to Gaviota Beach, northern Santa Barbara (Hatfield et al., 2019).	<b>Low.</b> Minimal suitable habitat present and study area is south of current known range.
<sup>1</sup> Status: FE = Federal Endangered FT = Federal Threatened FC = Federal Candidate SE = California State Endangered ST = California State Threatened			SC = California State Candidate FP = CDFW Fully Protected CSC = California Species of Special Concern BCC = USFWS Bird of Conservation Concern HAPC = Habitat Area of Particular Concern (HAPCs are defined as discrete subsets of EFH that provide important ecological functions and/or are especially vulnerable to degradation)	
<sup>2</sup> All marine mammals are Federally protected under the Marine Mammal Protection Act (MMPA).				
<sup>3</sup> Individuals from both the Central America and Mexico DPS are known to feed along the California coast.				

## **5.0 REGULATORY SETTING**

### **5.1 FEDERAL**

#### **5.1.1 Special-Status Species**

The Federal Endangered Species Act (FESA), administered by the USFWS and the NMFS, provides protection to species listed as Threatened (FT) or Endangered (FE), or proposed for listing as Threatened (PFT) or Endangered (PFE). The Services maintain lists of species that are neither formally listed nor proposed but could be listed in the future. These Federal candidate species (FC) include taxa for which substantial information on biological vulnerability and potential threats exists and are maintained in order to support the appropriateness of proposing to list the taxa as an endangered or threatened species. The FESA makes it unlawful to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect an endangered species, or to attempt to engage in any such conduct. Anyone violating the provisions of the ESA and regulations is subject to a fine and imprisonment. An “endangered species” is any species, which the Secretaries of the Department of the Interior and/or the Department of Commerce determine is in danger of extinction throughout all or a portion of its range. A “threatened species” is any species, which the Secretaries determine is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

The United States (U.S.) Marine Mammal Protection Act (MMPA) of 1972, amended 1994, protects all marine mammals, including cetaceans (whales, dolphins, and porpoises), pinnipeds (seals and sea lions), sirenians (manatees and dugongs), sea otters, and polar bears within the waters of the U.S. Specifically, the MMPA prohibits the intentional killing or harassment of these marine mammals; however, incidental harassment, with authorization from the appropriate federal agency, may be permitted. National Oceanic and Atmospheric Administration (NOAA) Fisheries (or National Marine Fisheries Service [NMFS]) is responsible for enforcing the MMPA.

#### **5.1.2 Essential Fish Habitat**

Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act protects Essential Fish Habitat (EFH) which is defined as “...those waters and substrate necessary for fish spawning, breeding, feeding, or growth to maturity.” “Waters,” as used in this definition, are defined to include “aquatic areas and their associated physical, chemical, and biological properties that are used by fish.” These may include “...areas historically used by fish where appropriate; ‘substrate’ to include sediment, hard bottom, structures underlying the waters, and associated biological communities.” “Necessary” means, “the habitat required to support a sustainable fishery and the managed species’ contribution to a healthy ecosystem.” EFH is described as a subset of all habitats occupied by a species (NOAA, 1998).

The National Oceanic and Atmospheric Administration (NOAA) identifies four Habitats of Particular Concern (HAPC) within the southern central California area: estuaries, rocky reefs, seagrass beds, and kelp beds. HAPCs are defined as discrete subsets of EFH that provide important ecological functions and/or are especially vulnerable to degradation. The HAPC designation does not necessarily confer additional protection or restrictions upon an area, but it helps prioritize and focus conservation efforts.



### **5.1.3 Waters and Wetlands**

The Corps and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredge and fill material into jurisdictional “waters of the United States” (WoUS) and wetlands under Section 404 of the Clean Water Act.

The Corps is responsible for the issuance of permits for the placement of dredged or fill material into WoUS pursuant to Section 404 of the Clean Water Act (33 USC 1344). As defined by the Corps at 33 CFR 328.3(a)(3), WoUS are those waters that are used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide; tributaries and impoundments to such waters; interstate waters including interstate wetlands; and territorial seas.

The Corps asserts jurisdiction over traditional navigable waters (TNW) and adjacent wetlands. Under Corps and EPA regulations, wetlands are defined as: “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”

### **5.1.4 Section 10 of the Rivers and Harbors Act of 1899 (33USC 403)**

In addition to Section 404, the Corps regulates activities affecting “navigable waters of the United States” under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403). Navigable waters are defined as “...*those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high-water mark and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce* (33 CFR 322.2[a]).” Structures or work under or over a navigable WoUS is considered to have an impact on the navigable capacity of the waterbody (33 CFR 322.3[a]).

## **5.2 STATE**

### **5.2.1 Special-Status Species**

The CDFW administers a number of laws and programs designed to protect the State’s fish and wildlife resources. Principal of these is the California Endangered Species Act of 1984 (CESA) (Fish and Game Code Section 2050), which regulates the listing and take of State endangered (SE) and threatened species (ST). Under Section 2081 of CESA, CDFW may authorize an incidental take permit allowing the otherwise unlawful take of a SE or ST species.

CDFW maintains lists of Candidate-Endangered species (SCE) and Candidate-Threatened species (SCT). These candidate species are afforded the same level of protection as listed species. CDFW designates Species of Special Concern (SSC) that are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species but may be added to official lists in the future. The SSC list is intended by CDFW as a management tool for consideration in future land use decisions.

## **5.2.2 Marine Life Protection Act**

California adopted the Marine Life Protection Act (MLPA) in 1999 to provide improved protection for the diversity and abundance of California's ocean habitats through a network of marine protected areas (MPAs) with the goals of sustaining, conserving and protecting marine life populations; protecting marine ecosystems; improving recreational, educational and study opportunities provided by marine ecosystems; and protecting marine natural heritage. There is strong scientific evidence that marine protected areas restore and protect the natural diversity and abundance of marine life, and the structure, function and integrity of marine ecosystems.

## **5.3 LOCAL AND REGIONAL**

### **5.3.1 City of Carpinteria**

City of Carpinteria Municipal Code 12.24.090 closes the beach 750 feet (228 meters) east and west of the Carpinteria Harbor Seal rookery on Carpinteria Beach from December 1 through May 31 each year. The closure area also extends out to 1,000 feet (304 meters) offshore during this period.

### **5.3.2 County of Santa Barbara**

The County of Santa Barbara's Coastal Plan defines environmentally sensitive habitat areas as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments."

Habitats which are found in the County's coastal zone include: rare and endangered species habitats (as identified by the California Department of Fish and Wildlife), wetlands, streams, near shore reefs, tidepools, offshore rocks, native plant communities, dunes, kelp beds, harbor seal rookeries and hauling out grounds, and seabird roosting and nesting areas.

County policy 30230 (based on the California Coastal Act) requires that marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

County policy 30240(a) requires that environmentally sensitive habitat areas will be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.

## 6.0 AVOIDANCE AND MINIMIZATION MEASURES

The proposed Project has the potential to cause temporary impacts to marine biological species and habitats during pipeline removal activities including impacts from vessel operations, and disturbances during breeding season, sensitive habitat disturbance, oil spills, and introduction of non-native aquatic species. To reduce the likelihood of significant impacts to marine biological resources, the following avoidance and minimization measures will be implemented by Chevron during beach, nearshore, and offshore Project activities.

**AMM 1: Environmental Awareness Training.** The approved biological monitor(s) will be responsible for conducting an environmental awareness training for all Project personnel to familiarize workers with surrounding common and special-status species and their habitats, applicable regulatory requirements, and measures that must be implemented to avoid or minimize potential impacts to biological resources.

**AMM 2: Delineation of Work Limits.** Prior to the start of the Project, beach decommissioning work area perimeters will be clearly flagged to ensure heavy equipment and vehicles stay within the permitted disturbance area, minimizing footprints to the extent necessary for equipment staging and activity, and to notify the public to avoid the active work zone. Signage will be posted on each sides of the active work zone alerting pedestrians of the hazards. Natural areas outside of the work zone shall not be disturbed. Designated equipment staging and fueling areas shall also be delineated at this time.

**AMM 3: Marine Wildlife Contingency Plan Implementation.** A Project Marine Wildlife Contingency Plan (MWCP) will be implemented during all offshore Project activities. A Marine Wildlife Monitor (MWM) shall be present on the offshore Project vessel and within the Beach and Offshore Operational Areas to monitor designated avoidance zones and have the authority to halt Project activities that may impact marine wildlife.

**AMM 4. Harbor Seal Monitoring and Protection Plan.** The Project Harbor Seal Monitoring and Protection Plan (Appendix C5) will be implemented during decommissioning activities on the bluff/beach and surf zone areas to reduce disturbances to harbor seals in the area. The Plan will include scheduling bluff/beach and surf zone project activities outside of the harbor seal breeding season and beach closure period from December 1 through May 31.

**AMM 5: Pre-Decommissioning Marine Biological Dive Surveys.** No more than 90 days prior to commencement of offshore activities, Chevron will conduct a pre-decommissioning marine biological survey of the sensitive habitat areas adjacent to the nearshore pipeline corridors. If sensitive seagrass species are identified, anchor locations will be relocated to avoid impacts to these protected habitats and post-decommissioning surveys would be conducted to verify seagrass beds had not been impacted by Project-related activities. Adjustments to decommissioning methodologies in sensitive habitats may be made to reduce impacts to these areas. In addition, ROV or multi-beam geophysical surveys will be conducted at each anchor location to confirm the absence of hard-bottom habitat.

**AMM 6: Oil Spill Response and Contingency Plan Implementation.** An Oil Spill Response and Contingency Plan (OSRCP) will be implemented during all Project activities in the event of a release of oil or contaminants.

**AMM 7: Prevent Introduction of Non-Native Aquatic Species (NAS).** All Project vessels will be in compliance with California's state ballast management regulations.



## 7.0 REFERENCES

- Allen, S., J. Mortenson, and, S. Webb. 2011. *Field Guide to Marine Mammals of the Pacific Coast: Baja, California, Oregon, Washington, British Columbia*. University of California Press. Berkeley and Los Angeles, California.
- Argonne National Laboratory. 2019. Environmental Setting of the Southern California OCS Planning Area. US Department of the Interior, Bureau of Ocean Energy Management. OCS Report BOEM 2019-038. 215 p.
- Aqueos Corporation (Aqueos). 2019. Chevron Platform Gail to Grace/Grace to Shore External Subsea Pipeline Inspection Report. November 2019.
- Bonnell, M.L., and M.D. Dailey. 1993. *Ecology of the Southern California Bight: A Synthesis and Interpretation*, Berkeley, CA: University of California Press.
- Bonnell, M.L., R.G. Ford. 1987. *California sea lion distribution: A statistical analysis of aerial transect data*, J. Wildl. Manage, 51(1):13-20.
- Calambokidis, J., G.H. Steiger, C. Curtice, J. Harrison, M.C. Ferguson, E. Becker, M. DeAngelis, and S.M Van Parijs. 2015. Biologically Important Areas for Selected Cetaceans within U.S. Waters – West Coast Region. *Aquatic Mammals* 41(1), p. 39-53.
- California Department of Fish and Wildlife. 2021. MarineBIOS Marine and Coastal Data Viewer. Accessed: June 10, 2021. Website available at: <https://wildlife.ca.gov/Conservation/Marine/GIS/MarineBIOS>
- California Department of Fish and Wildlife (CDFW) California Interagency Wildlife Task Group (CWHR). 2014. CWHR version 9.0 personal computer program. Sacramento, CA.
- Carpinteria Seal Watch. 2021. Carpinteria Seal Water, Seal Counts. Website: <https://carpinteriasealwatch.org/about/>. Accessed: April 28, 2021.
- Carretta, J.V., K.A. Forney, E.M Oleson, D.W. Weller, A.R. Lang, J. Baker, M.M. Muto, B. Hanson, A.J. Orr, H. Huber, M.S. Lowry, J. Barlow, J.E. Moore, D. Lynch, L. Carwell, R.L. Brownell Jr. 2020. Draft U.S. Pacific Marine Mammal Stock Assessments: 2020. NOAA-TM-NMFS-SWFSC-XXX. Revised August 2020.
- Danos, A., J. Kelly, J. Chalfin, and J. DuBois. 2020. 2019 Field Season Summary for the Sturgeon Population Study. California Department of Fish and Wildlife Bay Delta Region (Stockton). January 2020.
- Dohl, T.P., R.C. Guess, M.L. Duman, and R.C. Helm. 1983. *Cetaceans of central and northern California, 1980-1983: Status, abundance, and distribution*, prepared for U.S. Department of the Interior, Minerals Management Service, Pacific OCS Region, OCS Study MMS 84-0045, 284 pp.
- Hatfield, B.B., Yee, J.L., Kenner, M.C., and Tomoleoni, J.A.. 2019. California sea otter (*Enhydra lutris nereis*) census results, spring 2019: U.S. Geological Survey Data Series 1118, 12 p., <https://doi.org/10.3133/ds1118>.
- Johnson, S.Y., Dartnell, P., Cochrane, G.R., Golden, N.E., Phillips, E.L., Ritchie, A.C., Kvitek, R.G., Greene, H.G., Endris, C.A., Seitz, G.G., Sliter, R.W., Erdey, M.D., Wong, F.L.,

- Gutierrez, C.I., Krigsman, L.M., Draut, A.E., and Hart, P.E. (S.Y. Johnson and S.A. Cochran, eds.). 2013, California State Waters Map Series—Offshore of Carpinteria, California: U.S. Geological Survey Scientific Investigations Map 3261, 42 p., 10 sheets, scale 1:24,000, <https://pubs.usgs.gov/sim/3261/>.
- Lehman, P. 2019. The Birds of Santa Barbara County, California. June 2019.
- Love, M.S. and M. M. Nishimoto. 2012. Completion Of Fish Assemblage Surveys Around Manmade Structures and Natural Reefs off California. BOEM OCS Study 2012-020 Marine Science Institute, University of California, Santa Barbara, California. BOEM Cooperative Agreement No.: M10AC2001.
- Milton, S, P. Lutz, and G. Shigenaka. 1984. Oil and Sea Turtles: Biology, Planning, and Response. Planning for Environmental Emergencies. NOAA's Ocean Service Office of Response and Restoration. 23 Aug. 2004. Web. 14 July 2010.
- Moyle, P.B., Foley, P.J., and Yoshiama, R.M. 1992. Status of Green Sturgeon *Accipenser medirostris* in California. Final Report submitted to National Marine Fisheries Service. University of California Davis.
- National Marine Fisheries Service. 2005. Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California. FR Vol. 70, No. 170 September 2005.
- 2011. Green Sturgeon (*Acipenser medirostris*). Office of Protected Resources <http://www.nmfs.noaa.gov/pr/species/fish/greensturgeonhtm#documents>.
- 2012. Southern California Steelhead Recovery Plan. Southwest Region, Protected Resources Division, Long Beach, California.
- 2015. Status Review of the Green Turtle (*Chelonia mydas*) Under the Endangered Species Act. March 2015. NOAA-TM-NMFS-SWFSC-539.
- 2017. Rockfish Recovery Plan: Puget Sound / Georgia Basin yelloweye rockfish (*Sebastes ruberrimus*) and bocaccio (*Sebastes paucispinis*). National Marine Fisheries Service. Seattle, WA.
- 2018. Recovery Plan for the Southern Distinct Population Segment of North American Green Sturgeon (*Acipenser medirostris*). National Marine Fisheries Service West Coast Region California Central Valley Office, Sacramento, California.
- Padre, 2021. Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities – Project Description. June 2021.
- Santa Barbara Channelkeeper. 2010. The Role of Eelgrass Beds As Fish and Invertebrate Habitat 2009-2010 Final Report.
- Sherman, K., and L.A. DeBruyckere. 2018. Eelgrass habitats on the U.S. West Coast. State of the Knowledge of Eelgrass Ecosystem Services and Eelgrass Extent. A publication prepared by the Pacific Marine and Estuarine Fish Habitat Partnership for The Nature Conservancy. 67pp.
- Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate

conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

U.S. Army Corps of Engineers and U.S. Environmental Protection Agency (USACE). 2015. Clean Water Rule: Definition of "Waters of the United States." Final Rule. Federal Register 80 (124): 37054-37127.

U.S. Fish and Wildlife Service (USFWS). 2009. Species Assessment and Listing Priority Assignment Form - Xantus's murrelet (*Synthliboramphus hypoleucus*). [http://ecos.fws.gov/docs/candforms\\_pdf/r8/B098\\_V01.pdf](http://ecos.fws.gov/docs/candforms_pdf/r8/B098_V01.pdf).

## **ATTACHMENT A**

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### **USFWS AND NMFS SPECIES LISTS**



## **Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Following is the copy/pasted results of the informal search of NMFS database to generate a list of species that may be present in the Carpinteria, California Quadrangle. Query performed on June 10, 2021.

Quad Name **Carpinteria**

Quad Number **34119-D5**

- **ESA Anadromous Fish**

SONCC Coho ESU (T) -  
CCC Coho ESU (E) -  
CC Chinook Salmon ESU (T) -  
CVSR Chinook Salmon ESU (T) -  
SRWR Chinook Salmon ESU (E) -  
NC Steelhead DPS (T) -  
CCC Steelhead DPS (T) -  
SCCC Steelhead DPS (T) -  
SC Steelhead DPS (E) - **X**  
CCV Steelhead DPS (T) -  
Eulachon (T) -  
sDPS Green Sturgeon (T) - **X**

- **ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -  
CCC Coho Critical Habitat -  
CC Chinook Salmon Critical Habitat -  
CVSR Chinook Salmon Critical Habitat -  
SRWR Chinook Salmon Critical Habitat -  
NC Steelhead Critical Habitat -  
CCC Steelhead Critical Habitat -  
SCCC Steelhead Critical Habitat -  
SC Steelhead Critical Habitat - **X**  
CCV Steelhead Critical Habitat -  
Eulachon Critical Habitat -  
sDPS Green Sturgeon Critical Habitat -



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Ventura Fish And Wildlife Office  
2493 Portola Road, Suite B  
Ventura, CA 93003-7726  
Phone: (805) 644-1766 Fax: (805) 644-3958



In Reply Refer To:

June 09, 2021

Consultation Code: 08EVEN00-2021-SLI-0413

Event Code: 08EVEN00-2021-E-01380

Project Name: Carpinteria Oil and Gas Processing Facilities Decommissioning Project -offshore component

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

#### To Whom It May Concern:

The enclosed list identifies species listed as threatened and endangered, species proposed for listing as threatened or endangered, designated and proposed critical habitat, and species that are candidates for listing that may occur within the boundary of the area you have indicated using the U.S. Fish and Wildlife Service's (Service) Information Planning and Conservation System (IPaC). The species list fulfills the requirements under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the species list should be verified after 90 days. We recommend that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists following the same process you used to receive the enclosed list. Please include the Consultation Tracking Number in the header of this letter with any correspondence about the species list.

Due to staff shortages and excessive workload, we are unable to provide an official list more specific to your area. Numerous other sources of information are available for you to narrow the list to the habitats and conditions of the site in which you are interested. For example, we recommend conducting a biological site assessment or surveys for plants and animals that could help refine the list.

If a Federal agency is involved in the project, that agency has the responsibility to review its proposed activities and determine whether any listed species may be affected. If the project is a major construction project\*, the Federal agency has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species or critical habitat. If the Federal agency determines that a listed species or critical habitat is likely to be adversely affected, it should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve

conflicts with respect to threatened or endangered species or their critical habitat prior to a written request for formal consultation. During this review process, the Federal agency may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

Federal agencies are required to confer with the Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)). A request for formal conference must be in writing and should include the same information that would be provided for a request for formal consultation. Conferences can also include discussions between the Service and the Federal agency to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat early in the decision-making process. The Service recommends ways to minimize or avoid adverse effects of the action. These recommendations are advisory because the jeopardy prohibition of section 7(a)(2) of the Act does not apply until the species is listed or the proposed critical habitat is designated. The conference process fulfills the need to inform Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

When a proposed species or proposed critical habitat may be affected by an action, the lead Federal agency may elect to enter into formal conference with the Service even if the action is not likely to jeopardize or result in the destruction or adverse modification of proposed critical habitat. If the proposed species is listed or the proposed critical habitat is designated after completion of the conference, the Federal agency may ask the Service, in writing, to confirm the conference as a formal consultation. If the Service reviews the proposed action and finds that no significant changes in the action as planned or in the information used during the conference have occurred, the Service will confirm the conference as a formal consultation on the project and no further section 7 consultation will be necessary. Use of the formal conference process in this manner can prevent delays in the event the proposed species is listed or the proposed critical habitat is designated during project development or implementation.

Candidate species are those species presently under review by the Service for consideration for Federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

Only listed species receive protection under the Act. However, sensitive species should be considered in the planning process in the event they become listed or proposed for listing prior to project completion. We recommend that you review information in the California Department of Fish and Wildlife's Natural Diversity Data Base. You can contact the California Department of Fish and Wildlife at (916) 324-3812 for information on other sensitive species that may occur in this area.

[\*A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.]

Attachment(s):

- Official Species List



## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Ventura Fish And Wildlife Office**

2493 Portola Road, Suite B

Ventura, CA 93003-7726

(805) 644-1766

## Project Summary

Consultation Code: 08EVEN00-2021-SLI-0413

Event Code: 08EVEN00-2021-E-01380

Project Name: Carpinteria Oil and Gas Processing Facilities Decommissioning Project  
-offshore component

Project Type: OIL OR GAS

Project Description: Decommissioning and removal of surface and subsurface offshore facilities

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@34.3659627,-119.52806893151833,14z>



Counties: Santa Barbara County, California

## Endangered Species Act Species

There is a total of 16 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Birds

NAME	STATUS
California Condor <i>Gymnogyps californianus</i> Population: U.S.A. only, except where listed as an experimental population There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/8193">https://ecos.fws.gov/ecp/species/8193</a>	Endangered
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/8104">https://ecos.fws.gov/ecp/species/8104</a>	Endangered
Least Bell's Vireo <i>Vireo bellii pusillus</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/5945">https://ecos.fws.gov/ecp/species/5945</a>	Endangered
Light-footed Clapper Rail <i>Rallus longirostris levipes</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6035">https://ecos.fws.gov/ecp/species/6035</a>	Endangered
Marbled Murrelet <i>Brachyramphus marmoratus</i> Population: U.S.A. (CA, OR, WA) There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/4467">https://ecos.fws.gov/ecp/species/4467</a>	Threatened
Short-tailed Albatross <i>Phoebastria (=Diomedea) albatrus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/433">https://ecos.fws.gov/ecp/species/433</a>	Endangered
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/6749">https://ecos.fws.gov/ecp/species/6749</a>	Endangered
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/8035">https://ecos.fws.gov/ecp/species/8035</a>	Threatened

## Amphibians

NAME	STATUS
Arroyo (=arroyo Southwestern) Toad <i>Anaxyrus californicus</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/3762">https://ecos.fws.gov/ecp/species/3762</a>	Endangered
California Red-legged Frog <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened



## Fishes

NAME	STATUS
Tidewater Goby <i>Eucyclogobius newberryi</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/57">https://ecos.fws.gov/ecp/species/57</a>	Endangered

## Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened

## Flowering Plants

NAME	STATUS
Gambel's Watercress <i>Rorippa gambellii</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4201">https://ecos.fws.gov/ecp/species/4201</a>	Endangered
Marsh Sandwort <i>Arenaria paludicola</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2229">https://ecos.fws.gov/ecp/species/2229</a>	Endangered
Salt Marsh Bird's-beak <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6447">https://ecos.fws.gov/ecp/species/6447</a>	Endangered
Ventura Marsh Milk-vetch <i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/1160">https://ecos.fws.gov/ecp/species/1160</a>	Endangered

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

- **ESA Marine Invertebrates**

Range Black Abalone (E) - **X**

Range White Abalone (E) - **X**

- **ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

- **ESA Sea Turtles**

East Pacific Green Sea Turtle (T) - **X**

Olive Ridley Sea Turtle (T/E) - **X**

Leatherback Sea Turtle (E) - **X**

North Pacific Loggerhead Sea Turtle (E) - **X**

- **ESA Whales**

Blue Whale (E) - **X**

Fin Whale (E) - **X**

Humpback Whale (E) - **X**

Southern Resident Killer Whale (E) - **X**

North Pacific Right Whale (E) - **X**

Sei Whale (E) - **X**

Sperm Whale (E) - **X**

- **ESA Pinnipeds**

Guadalupe Fur Seal (T) - **X**

Steller Sea Lion Critical Habitat -

- **Essential Fish Habitat**

Coho EFH -

Chinook Salmon EFH -

Groundfish EFH - **X**

Coastal Pelagics EFH - **X**

Highly Migratory Species EFH - **X**

- **MMPA Species (See list at left)**
- **ESA and MMPA Cetaceans/Pinnipeds**

**See list at left and consult the NMFS Long Beach office  
562-980-4000**

MMPA Cetaceans - **X**

MMPA Pinnipeds - **X**

**ATTACHMENT B**

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**SITE PHOTOGRAPHS**





Photo 1. Study area on west side of Casitas Pier and Marketing and Marine Terminal Offloading line bundle (buried). Date: April 20, 2021, aspect east.



Photo 2. Study area on east side of Casitas Pier with Gail and Grace pipeline bundle (buried) and exposed concrete armament. Date: April 20, 2021, aspect west.





Photo 3. Casitas Pier and overview of harbor seal rookery on the east side of the Pier. Date: April 20, 2021, aspect southeast.



Photo 4. Overview of typical intertidal habitat dominated by mussels (*Mytilus* sp.) within study area. Date: April 20, 2021, aspect south.

## **Appendix C-6**

### **Carpinteria Harbor Seal Rookery Monitoring and Protection Plan**

# **CARPINTERIA HARBOR SEAL ROOKERY MONITORING AND PROTECTION PLAN**

## **DECOMMISSIONING AND REMEDIATION OF THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES SANTA BARBARA, CALIFORNIA**

**Project No. 2002-5211**

**Prepared for:**

Chevron West Coast Decommissioning Program  
3916 State Street, Suite 200  
Santa Barbara, CA 93105

**Prepared by:**

Padre Associates, Inc.  
369 Pacific Street  
San Luis Obispo, California 93401

**DECEMBER 2021**





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## **1.0 INTRODUCTION**

This Carpinteria Harbor Seal Monitoring and Protection Plan (Plan) has been prepared on behalf of Chevron U.S.A. (Chevron) in support of the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project (Project). The proposed Project includes demolition of surface and subsurface facilities and remediation of any subsurface soil and groundwater contamination at the Carpinteria Onshore Oil and Gas Processing Facility (Project Site). The Project will also include the removal of pipelines from the bluff and beach areas adjacent to the Casitas Pier and west of the Carpinteria Harbor Seal Rookery. This Plan outlines avoidance and minimization measures intended to reduce the potential for Project-related impacts on the harbor seals during temporary construction activities.

### **1.1 BEACH AND BLUFF PIPELINE DECOMMISSIONING SUMMARY**

The nearshore worksite contains two pipeline decommissioning areas (Figure 1-1). East of the Casitas Pier, the Platform Gail and Grace Pipeline Bundle includes a concrete encased 10-inch oil and 10-inch gas pipeline bundle which originate from Platforms Grace and Gail (formerly through Platform Hope). Additionally, a 10-inch idled oil pipeline from the former Platform Hope, is located on risers east of the Grace and Gail pipelines. The pipelines continue northward up the bluffs and through the Former Sandblast Area, then under the Union Pacific Railroad and into the Main Plant Area.

Additionally, the former Marketing and Marine Terminal Offloading Line Bundle is located west of the Casitas Pier. The Marketing and Marine Terminal mooring area supported two separate pipeline corridors from the onshore facilities which transported refined products from the Marketing Terminal and a separate crude oil line from the onshore Tank 861. The pipelines transect the beach and enter into a rock rip rap revetment below the edge of the bluff. The pipelines are buried within the bluff and leading into the Former Marketing Terminal Area.

#### **1.1.1 Gail and Grace Bundle Pipeline Decommissioning**

Beginning at the shoreward termination, in approximately 15 feet of water, the Gail and Grace pipeline bundle will be removed from the surf zone utilizing a combination of shore side construction crews and offshore dive crews. Surf zone and associated beach pipeline removal operations will be scheduled during seasonal work windows with the least amount of sand cover, avoiding the harbor seal rookery beach closure (December 1 through May 31st), and at extreme low tides when necessary, to facilitate safe recovery of each pipeline out to the mean low-low water (MLLW) line.

Working from the beach and the adjacent Casitas Pier, shore side crews will first have to remove the concrete armoring from the 10- -inch pipelines that run to Platform Gail and Grace. The concrete currently protects the pipelines from damage through the surf zone and up to the base of the bluff.

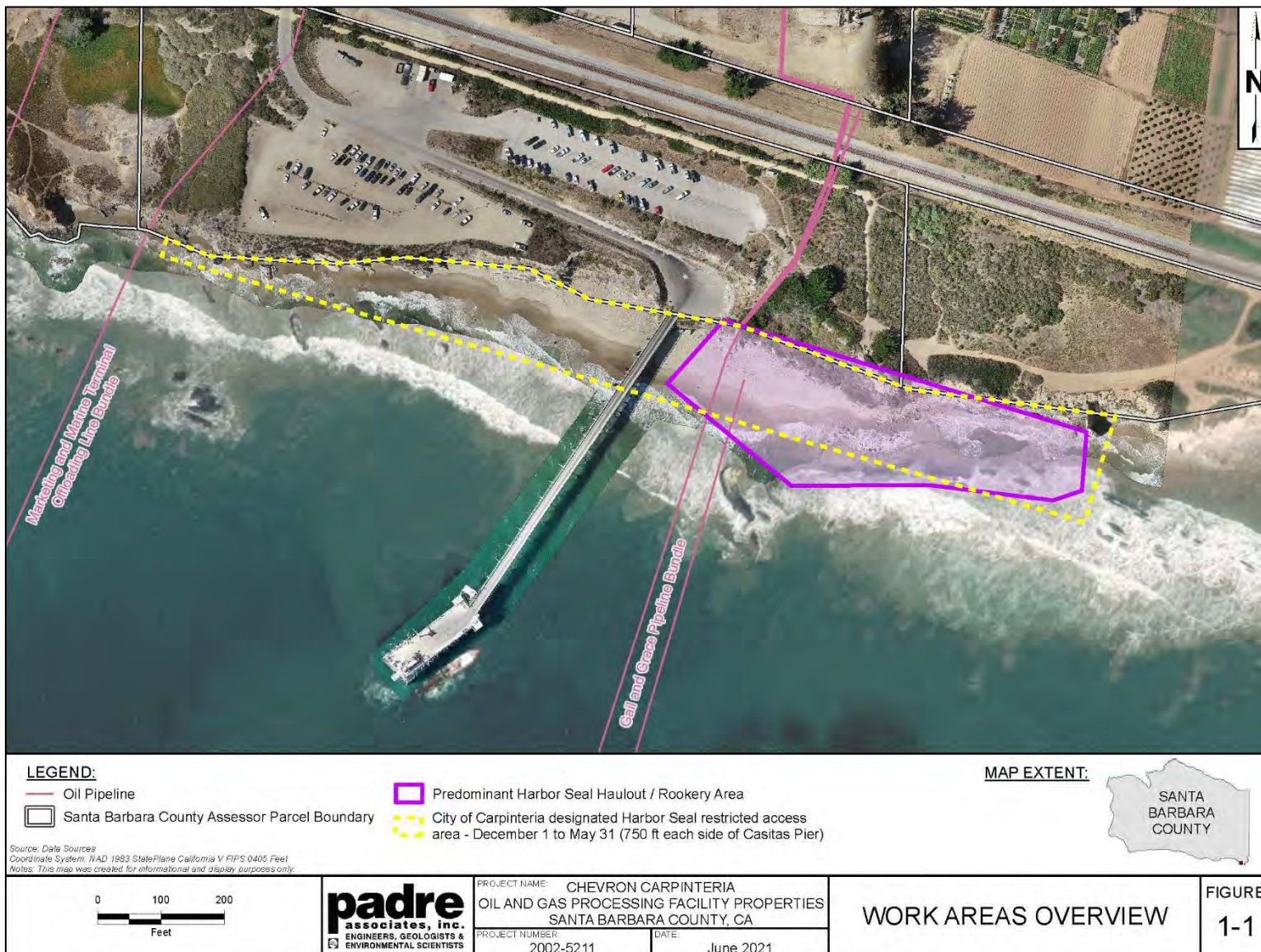


Figure 1-1. Site Location Map

Removal of the concrete armoring will require concrete saws and/or jack hammers and will be done with precision, in order to protect the pipelines underneath. As they are removed, pieces of concrete will be loaded into containers and lifted by the existing pier crane and transported to the asphalt staging area adjacent to the north end of the Casitas Pier for transport/disposal.

Pipelines will ideally be pulled from the surf zone onto an anchored derrick barge with dive support vessels stationed at a safe distance offshore. Divers will then locate the cut end of each pipeline and excavate as needed to prepare the pipe to be pulled offshore. Each nearshore pipeline will be attached to a pull winch or crane and lifted to the deck of the derrick barge.

The decommissioning of the Gail and Grace Bundle to the top of the bluff will be scheduled following the removal of the offshore and surf zone pipelines. All concrete armoring currently surrounding the Gail and Grace pipeline bundle up the bluff will be removed using similar methods as surf zone removal. Concrete pieces will be systematically cut, from the top of the bluff down, and placed into a container suspended from a crane, to be lifted to the staging area. Exposure and removal of the pipeline bundle through the bluff may require trenching techniques into the bluff face, dependent on bluff stability and depth of burial, to expose the pipelines and winch them to a safe location away from the bluff or into the adjacent asphalt staging area at the north end of the Casitas Pier, where they can be cut into disposable pieces and loaded into transport trucks.

The pipeline segments located across the Former Sand Blast Area and leading into the Onshore Processing Facility will be abandoned-in-place, with exception of the portion located beneath the Union Pacific Railroad right-of-way, which will be removed.

### **1.1.2 Marketing and Marine Terminal Offloading Line Bundle Pipeline Decommissioning**

The former Marketing and Marine Terminal Offloading Line Bundle pipeline segments will be removed by sectioning the pipeline on the seafloor and lifting the cut pipe segments to the deck of the barge one section at a time. The offshore segment removal work will be terminated at approximately the 15-foot bathymetric contour line.

Beginning at the shoreline termination, the Marketing and Marine Terminal Offloading Line Bundle will be removed from the surf zone utilizing a combination of shore side construction crews and offshore dive crews. Surf zone removal operations will be scheduled during seasonal work windows with the least amount of sand cover and at extreme low tides to facilitate safe recovery of each pipeline out to the MLLW line. A derrick barge and dive support vessel will be mobilized and positioned at the offshore cut end of the pipelines. Due to shallow depths, the derrick barge will require an anchor-handling vessel to run all the vessels anchors to pre-determined anchor locations. Divers will then locate the previously cut end of each pipeline and excavate as needed to prepare the pipe to be pulled toward the offshore spread, similar to the Gail and Grace Bundle.

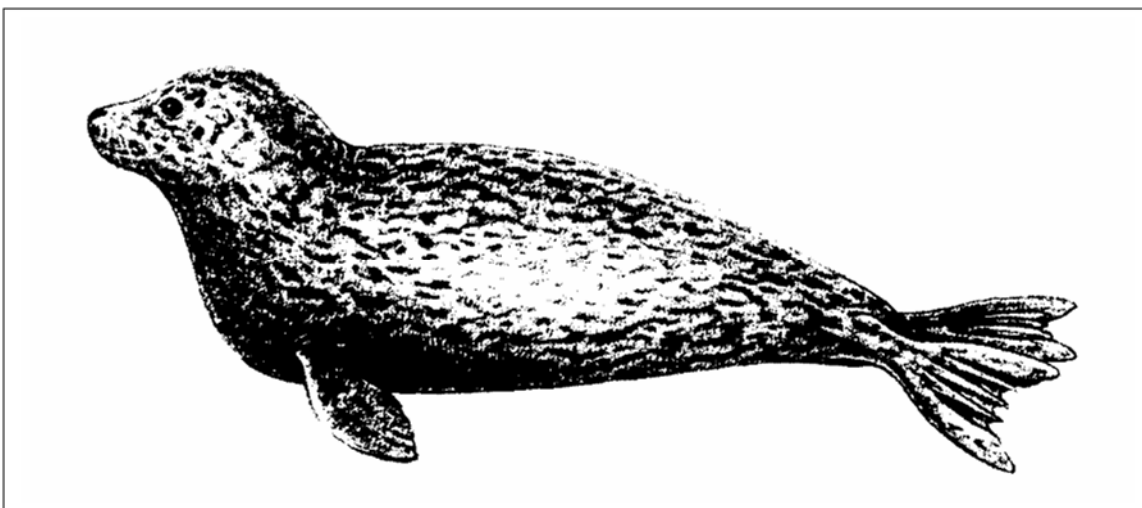
Working from the beach, shore side crews will expose each buried pipeline on the beach, if needed, from the shoreward extent of rip rap at the base of the bluffs to the MLLW line. Each pipe will be uncovered as far into the surf zone as safely practicable. The decommissioning of the pipelines within the bluff and vault along the top of the bluff will be scheduled following the removal of the offshore and surf zone pipelines as well as any pipeline segments that run south from the Project plant facilities toward the shore. The removal of pipelines from the bluff will require an excavator, positioned safely away from the bluff edge, to dig a trench to uncover buried segments

of pipe. In addition, all rip rap currently surrounding the 20-inch loading line and associated pipelines will be removed to expose the bluff face. Rip rap will be systematically removed up the bluff to extent necessary with an approved lifting and rigging plan, an excavator with a thumb and soft sling attachments, and loader positioned safely on the bluff. Once the pipelines are fully exposed in the bluff, they will be lifted or winched to a safe location away from the bluff where they can be cut again into disposable pieces.



## 2.0 CARPINTERIA HARBOR SEAL POPULATION AND REGULATIONS

The beach adjacent to the Gail and Grace Bundle Project Site is a documented Pacific harbor seal (*Phoca vitulina richardsii*) haul out area and rookery (Figure 2-1). This beach is one of four harbor seal rookeries in California and documentation suggests that harbor seals have used the site as a rookery for over 100 years MMCG (2002). Use of the area by harbor seals varies seasonally, with pupping predominately occurring between February and March. During the summer months, the area is used as a nighttime haul out. To protect the seals during haul-out and pupping periods, the City of Carpinteria closes the beach to the public from December 1st through May 31st. The beach is closed within 750 feet west and east of the rookery, as well as out to 1,000 feet offshore (Figure 2-1).



**Figure 2-1. Pacific Harbor Seal (Depiction)**

The Pacific harbor seal ranges from Cedros Island (Baja California) through the Aleutian Islands and to the Pribilof Islands. There are approximately 27,000 harbor seals along the California Coast (Carretta et al., 2015). Daugherty, 1985 and Yates, 1988 characterize the Pacific harbor seal as chunky-shaped, with a spotted coat, large eyes, and square muzzle; the front flippers are small, and the hind flippers are backward-pointing. Males, which can be up to six feet long and weigh over 300 pounds, are slightly larger than females. Pups wean within four to six weeks of birth and individuals of this species have been known to reach 40 years of age.

The Carpinteria harbor seal rookery is located adjacent to Casitas Pier, which operates daily in support of offshore oil and gas activities. The seals in the area are acclimated, to an extent, to regular human activity around the Pier. During previous repair and construction work around the rookery, harbor seals have been exposed to disturbances including vehicle and boat sounds, machinery, hammering or grinding on the pier, vibratory pile driving and crane activities, and concrete demolition. In addition, human disturbances around the rookery when the beach is open include people walking, jogging, fishing, intentional harassment by children or dogs (on and off leash), low-flying helicopters, and use of watercraft (kayaks, boat, and paddleboards) (California Coastal Commission, 2020).

Current reports indicate that approximately 100 to 150 adults and up to 60 pups can be found at the Carpinteria rookery in February and March (Carpinteria Seal Watch <https://carpinteriasealwatch.org/about/>). Table 2-1 below provides 2021 month counts from the rookery.

**Table 2-1. 2021 Seal Watch Totals**

Month	Week	High adult count	High pup count
<b>January</b>	Jan 1 - Jan 3	129	0
	Jan 4 - Jan 10	68	0
	Jan 11 - Jan 17	77	0
	Jan 18 - Jan 24	102	1
	Jan 25 – Jan 31	102	1
<b>February</b>	Feb 1 - Feb 7	87	2
	Feb 8 - Feb 14	92	3
	Feb 15 - Feb 21	92	10
	Feb 22 - Mar 28	91	27
<b>March</b>	Mar 1 - Mar 7	122	45
	Mar 8 - Mar 14	143	53
	Mar 15 - Mar 21	137	50+
	Mar 22 - Apr 28	153	59
<b>April</b>	Mar 29 – Apr 4	137	56
	Apr 5 – Apr 11	122	20+
	Apr 12 – Apr 18	182	10
	Apr 19 – Apr 25	169	2
<b>May</b>	Apr 26 – May 2	169	0
	May 3 – May 9	220	0
	May 10 – May 16	178	0

Harbor seals are a protected species under the Marine Mammal Protection Act of 1972 (MMPA). Under the requirements of the MMPA the take of protected marine mammals is prohibited. Take is defined “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture or kill any marine mammal.” Harassment is defined in the 1994 amendments to the MMPA as “...any act of pursuit, torment or annoyance...” and has two levels: Level A has the potential to injure a marine mammal or marine mammal stock, and Level B has the potential to disturb a marine mammal in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding or sheltering. Penalties for violating any provision of the MMPA range from \$10,000 to \$20,000 and imprisonment for no more than one year per incident.

### **3.0 POTENTIAL IMPACTS**

The Carpinteria harbor seal rookery is located approximately 270 feet from the east side of the Gail and Grace pipeline bundle and approximately 1,200 feet east of the Marketing and Marine Terminal Offloading Line Bundle beach and surf zone pipeline removal area(s). Project decommissioning activities, including removal of cement armaments, removal of rip rap, cutting of the pipe into sections and pulling of pipe sections offshore, have the potential to cause a significant disturbance to harbor seals if they are hauled-out on the beach during Project activities. Although no injury or mortality is expected to occur, even Project-related foot traffic on the beach may cause hauled-out harbor seals to startle and flush into the water, which could qualify as a Level B harassment as defined by National Marine Fisheries Service (NMFS) (disrupting behavioral patterns).

The proposed Project will require personnel and small equipment to access and temporarily utilize a portion of the beach. Project activities could result in noise from demolition and from the physical presence of workers and equipment in proximity to the rookery. Due to the sensitivity of hauled-out seals, particularly mother and newborn pups, protective measures will be required to reduce these potential impacts to the maximum extent feasible as described in Section 4.0 (Avoidance and Protection Measures).

#### 4.0 AVOIDANCE AND PROTECTION MEASURES

The Project would occur within the beach and nearshore areas of Casitas Pier. The decommissioning activities will be conducted by a work crew utilizing hand tools and potentially small equipment. Staging of equipment and trucks will occur within the paved parking area east of Casitas Pier. No trucks or equipment will be staged on the beach. Electric and air lines will be run, as needed, from the Project staging area to the immediate work area on the beach and removed each day following work activities. No tools or equipment will remain on the beach overnight.

Project activities will be scheduled during low tide windows and limited to daylight hours only to maximize visibility and ensure safety during repair work. In addition, a Marine Wildlife Monitor (MWM) will remain onsite during all work to ensure that activities are limited to the immediate work area. All Project activities will be conducted in accordance with standard Chevron best management practices (BMPs) and in accordance with all laws and regulations.

Given the biological sensitivity of the Project area, a number of marine wildlife protection measures have been incorporated by Chevron into the Project. These measures have been developed based upon protection measures adhered to during previous work activities in the Project area, as well as direct input from responsible agencies; including the National Marine Fisheries Service (NMFS,) California Coastal Commission (CCC), and City of Carpinteria, as well as input from the Carpinteria Seal Watch Organization. The following marine wildlife protection measures would be followed during the proposed Project activities:

- **Project Timing:** It will be a priority of the Project to schedule activities outside of the pupping season. However, there is the potential the proposed decommissioning Project activities will occur for a short period during the period that the beach is closed to the public. Project activities adjacent to the rookery during pupping season (December 1 through May 31) will be minimized to the maximum extent feasible to conduct pipeline decommissioning activities.
- **Carpinteria Seal Watch Coordination:** Given their extensive database of information regarding the local harbor seal population in this area, the Carpinteria Seal Watch organization will be notified prior to initiation of Project activities on the bluff or beach to best coordinate timing and initiation of work activities. One of the onsite marine mammal monitors will work directly with Seal Watch volunteers present at the overlook to coordinate direct observation of harbor seal activities during Project-related activities.
- **Pre-Project Notifications:** Once coordination with Carpinteria Seal Watch has been completed, Chevron will immediately notify Ms. Tina Fahy (NMFS) regarding upcoming work activities. Additionally, Chevron will notify Ms. Fahy at least 48 hours prior to initiation of bluff or beach Project activities and will include information on the location of mother/pups pairs in relationship to the work area. This notification will be copied to all other responsible agencies, including; but not limited to the California Coastal Commission, U.S. Army Corps of Engineers, Regional Water Quality Control Board, and the City of Carpinteria.



- **Project Personnel:** The number of on-beach personnel will be minimized. Work crews will access the work site to the west of the pier and approach the area adjacent to the foot of the bluff. A marine wildlife monitor will be present at all times during required work activities, including activities scheduled outside of pupping season (June 1 through November 30), until the surf zone and bluff pipeline removal has been completed and all equipment/personnel have left the area.
- **Equipment Storage:** Required equipment will be stored on the paved parking lot above the beach and away from the bluff edge.
- **Marine Wildlife Sensitivity Training:** Prior to the initiation of the Project, personnel will be given marine wildlife sensitivity training. This training will include specifics regarding Project restrictions, operational limits, and ingress/egress methodology. The crews will be instructed to wear neutral colored clothing, and to move slowly during ingress/egress as well as minimize hand gestures or signals during work activities to avoid startling the harbor seals.
- **Minimization of the Work Zone:** Project-related activities on the bluff and beach will be restricted to the minimum area necessary to conduct work.
- **Place a Screen Between the Work Area and Seal Rookery Area:** Due to its close proximity to the harbor seal rookery, Chevron would erect a temporary visual screen between the Gail and Grace pipeline bundle work area and seal rookery area to further reduce the potential for behavioral changes of nearby harbor seals. Installation of the visual screen would be considered if determined to be necessary during pupping season to mitigate visual impacts and conducted in coordination with Carpinteria Seal Watch and a qualified Marine Wildlife Observer. The screen would be approximately 8-feet high by 30-feet wide, would be maintained taut to avoid flapping or excessive movement due to wind or wave action, and would be positioned to screen the immediate Project area from view of the rookery area. The screen would be placed, maintained, and removed in a manner and at times that avoid disturbance to seal present on the beach; for example, placing it before first light on the first day of work and removing it after last light on the final day of work.
- **Minimization of Noise:** Communications between Project personnel will be kept to a minimum. Except in an emergency, no shouting will be allowed. Low volume radio transmissions will be used to reduce potential disturbance to the rookery. Any concrete demolition will be performed outside of the pupping season to minimize noise impacts to nursing seals. Additional noise dampening shields in addition to a temporary screen may be constructed around the work area to reduce the level of noise emitted during work.
- **Best Management Practices:** Repair activities will be performed with the implementation of all Best Management Practices (BMPs). No trash will be discarded on the beach and all trash will be secured in bins with lids. Any Project-generated debris will be removed from the beach and taken to an appropriate disposal facility.

- **Stop-Work Authority:** The on-site MWM will have the authority to stop all operations to avoid harassment of seals. Harassment is defined by the sudden flushing of seals into the water, potentially separating nursing cow and pup pairs, or any abnormal or aggressive behaviors. The monitor will record, photograph, and report compliance with the protective measures throughout the pipeline decommissioning activities.
- **In the Event of Interaction:** In the event of any signs of distress are noted during Project activities, the monitor will notify the construction supervisor and operations will immediately stop Project operations. The monitor will also contact a pre-determined contact at National Oceanic and Atmospheric Administration (NOAA) Fisheries and work activities will not resume until NOAA Fisheries has agreed with any proposed changes to the work procedures.

#### 4.1 NOTIFICATIONS

Chevron will notify applicable agencies, included NOAA Fisheries and California Coastal Commission within 14 days prior to the start of work. Agency notification will include a summary of Project activities that need to be completed and the anticipated work schedule. Additional impact avoidance and minimization measures will be added (if required) following consultation with NOAA Fisheries.

#### 4.2 DATA COLLECTION AND REPORTING

The MWM will ensure that the Project is in compliance with all necessary permits, and that Best Management Practices are followed. The MWM will also be responsible for recording the activities and, if necessary, for stopping the activities in the event that significant changes to harbor seal activities are observed. In addition to briefing all Project personnel on the protective measures prior to initiating work each day, the monitor will delineate the equipment and personnel ingress/egress corridors.

#### 4.3 DATA COLLECTION

Prior to repair activities, the MWM will count and record the number and species of all marine mammals that are within the Project area (within visual range along the beach) and take photographs of the Project site and access route. At regular intervals during the day, the monitor will record the number and location of harbor seals and document the decommissioning activities. Changes in the behavior or number of individuals and/or their proximity to the Project site prior to, during, and immediately following noise-producing activities will be recorded and photographed. The type of activity that promulgated changes in harbor seal abundance or behavior will also be recorded.

During the repair activities, the MWM will also take notes on the weather (i.e. wind direction and speed, percent cloud cover, wave height and direction), non-project human activities, and ex-limital (outside the Project boundaries) observations of avifauna and marine mammals. Although none is expected, should the monitor observe any activity that are considered to be harassment of a marine mammal, that activity will be stopped immediately, and the Chevron Project Manager and NOAA Fisheries representative will be contacted immediately via cell phone.

#### **4.4 REPORTING**

Data and observations that were recorded during the removal activities will be presented in tabular and text format in a technical report that will also include copies of photographs. The report will summarize the Project decommissioning activities as well as protective measures and their effectiveness. The technical report will be provided to the regulatory agencies within 30 days of completion of the final beach or bluff decommissioning activities.

## 5.0 REFERENCES

- California Coastal Commission. 2020. Staff Report Follow-on Authorization from an emergency permit to replace to piles at Casitas Pier. May 2020.
- Carretta, James V., Karin. A. Forney, Erin M. Oleson, David W. Weller, Aimee R. Lang, Jason Baker, Marcia M. Muto, Brad Hanson, Anthony J. Orr, Harriet Huber, Mark S. Lowry, Jay Barlow, Jeffrey E. Moore, Deanna Lynch, Lilian Carswell, and Robert L. Brownell Jr. 2020. U.S. Pacific Marine Mammal Stock Assessments: 2019, U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-629.
- Daugherty, A. E., 1985. *Marine Mammals of California*. California Dept. of Fish & Game, Sacramento, CA. Species Booklet Series. 86 pp.
- Harbor Seal Website, 2021. <https://carpinteriasealwatch.org/>
- Yates, S., 1988. *Marine Wildlife of Puget Sound, the San Juans, and the Strait of Georgia*. The Globe Pequot Press, Chester, Conn. 262

## **Appendix C-7**

### **Preliminary Restoration/Revegetation Plan**



# **PRELIMINARY RESTORATION/REVEGETATION PLAN**

## **DECOMMISSIONING AND REMEDIATION OF THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES**

### **CARPINTERIA, SANTA BARBARA COUNTY**

**Project No. 2002-5211**

**Prepared for:**

Chevron West Coast Decommissioning Program  
3916 State Street, Suite 200  
Santa Barbara, CA 93105

**Prepared by:**

Padre Associates, Inc.  
1861 Knoll Drive  
Ventura, California 93003

**JUNE 2021**



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CARPINTERIA OIL & GAS PROCESSING FACILITIES – PLANT LIST

CARPINTERIA OIL & GAS PROCESSING FACILITIES – VEGETATION MAP

## **1.0 INTRODUCTION**

The following Restoration/Revegetation Plan (Plan) has been prepared by Padre Associates, Inc. (Padre) on behalf of Chevron USA (Chevron). This Plan has been developed to outline the restoration process for the areas identified for equipment demolition and soil removal during the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project (Project) located in the eastern portion of the City of Carpinteria, California, between U.S. Highway 101 and the Pacific Ocean (Project Site) (Figure 1-1). This Plan has been written in support of the Project's application for a Conditional Use Permit (CUP)/Coastal Development Permit (CDP) that is being filed with the City of Carpinteria and County of Santa Barbara. Additional details related to the history and purpose of the Project can be found in the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project Description (Padre, 2021a).

This Plan addresses the proposed revegetation that will occur within applicable portions of the Project Site after remediation activities are complete. The Plan provides guidelines for erosion control revegetation or habitat restoration implementation, as appropriate, depending on future potential redevelopment or conservation for each Operational Area. The Plan also provides guidelines for restoration success criteria, monitoring and maintenance, and reporting. The restoration implementation section includes guidelines for the plant palette, plant materials, planting methods, and irrigation. The restoration monitoring and reporting section provides details on performance criteria to measure the success of the restoration, monitoring of restoration progress, reporting requirements and triggers for adaptive management.

### **1.1 PROJECT SUMMARY**

The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of any contaminated soils at the onshore Carpinteria Oil and Gas Processing Facility to accommodate the Project Site's potential future redevelopment or land use modification to open space along the ocean bluff.

### **1.2 BACKGROUND**

The Project Site is located within an area that has been historically utilized for agricultural production and more recently for oil and gas development support activities. Historical agricultural production activities documented at the Project Site from the 1920's through 1959 included dry farming, row crop production, orchards (fruit trees and nuts), and commercial flower production (plant nursery). The Carpinteria Oil and Gas Processing Facility has been in operation since 1959 and historically supported offshore Platforms Hazel, Hilda, Hope and Heidi (Carpinteria Field), and Grace and Gail (Santa Clara Field and Sockeye Field). Abandonment of the wells and decommissioning/removal of offshore Platforms Hazel, Hilda, Hope, and Heidi (4H Platforms) from the Santa Barbara Channel were completed in 1996. Although Platform Grace ceased production in 1998, the Plant and Tank 861 continued to receive oil and gas from Platform Gail until approximately 2017.

Most recently, portions of the Project Site were remediated and restored in 2012 to mitigate for impacts related to pesticide impacted soil. The following sites were revegetated

during Winter 2011/2012, completed their monitoring period in Spring 2015 and remain restored and vacant:

- Buffer Zone Area (BZA) –Restored with additional native trees and remained a mosaic of mix woodland and annual grassland following soil remediation.
- Former Nursery Area (FNA) –Restored to pre-project conditions with annual grasses and native herbs following soil remediation. The margins of the sidewalk along Carpinteria Avenue at the northern extent of the FNA were also planted with native shrubs and western sycamore (*Platanus racemosa*).
- Drainage Area No. 4 (DA4) – Restored to support an ephemeral drainage of native facultative wetland species and a mesic wetland plant community with mature native woodland trees.
- Former Sand Blast Area (FSBA) – Restored to native coastal scrub species to blend into surrounding habitat following soil remediation.

Other revegetation activities historically or recently performed by others throughout the Project Site include:

- BZA - A large scale planting of coast live oak (*Quercus agrifolia*) and other trees for creation of a wooded buffer between the Processing Facilities and the homes along Arbol Verde Street to the west of the Project Site.
- Former Marketing Terminal Area (FMTA) – The southern portion of this area was restored with native coastal scrub and chaparral species.
- FSBA, Pier Parking Lot, and Pipeline Bluff Crossing Area – The City of Carpinteria planted both margins of the newly constructed or improved Carpinteria Bluffs trail with native coastal scrub and chaparral species, and western sycamore trees.





**LEGEND:**

- Operational Area
- Project Site

**MAP EXTENT:**





## **2.0 BASELINE BOTANICAL SURVEYS**

Existing biological resources on the Project Site have been periodically compiled during the course of numerous biological surveys, biological monitoring events, and wetland delineation data collected at different portions of the Project Site from 1998 (as originally documented in 2004) through 2021 in support of various operational, maintenance, demolition, and interim soil cleanup activities conducted during that period. The results of these studies were used to determine the plant palette and performance criteria target values presented in this Plan.

### **2.1 METHODS**

The desktop review included a query of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) to identify reported occurrences of special-status plant and wildlife species and sensitive habitats within the region, as well as review of previous survey reports completed by Padre in support of prior activities on the Project Site (Padre, 2012). Field survey methods consisted of walking systematic transects throughout each Operational Area. The most recent field surveys were conducted in April and May 2021, within the typical blooming period for most plant species including potentially occurring special-status annual plant species. All identifiable plant species observed at the Project Site were documented and the Project Site's botanical inventory derived from previous surveys was updated to include observations of species specific to the Project Operational Areas (Attachment A).

Vegetation mapping of the Project Site was also completed during the April and May 2021 field surveys according to the Manual of California Vegetation, Second Edition (Sawyer et. al, 2009) and is documented in the Terrestrial Biological Resources Study (Padre, 2021b).

### **2.2 FINDINGS**

The majority of the Project Site has been historically cleared for various oil and gas industrial purposes or was planted with landscaping trees (windrows), and thus is highly disturbed from a biological perspective. Vegetation, where present, primarily consists of stands of non-native trees and non-native grasses or ruderal fields, with exception to several native plant restoration areas. Native scrub and non-native groundcover species are also present along the bluffs to the east, west, and south of the Pier Parking Lot. Table 2-1 provides the acreage and locations of each vegetation type throughout the Project Site. The following paragraphs describe on-site vegetation communities in more detail. Figures 2a through 2c provide a vegetation map of the Project Site (Attachment B).

**Table 2-1. Vegetation of the Project Site**

General Category	MCV2 Classification	Onsite Acreage	Present at:
Tree Windrows	<i>Eucalyptus globulus</i> or <i>camuldulensis</i> Semi-Natural Woodland Stands (Eucalyptus groves)	7.6	Buffer Zone, Former Nursery Area, Shop & Maintenance Area, MSRC Lease Area, Peninsula Area, Drainage Area No. 4, Former Marketing Terminal Area, Chevron Pipeline Area, and Main Plant Area.
Tree Windrows	<i>Tamarix</i> spp. Semi-natural Shrubland Stands (Tamarisk thickets)	0.6	Main Plant Area, and MSRC Lease Area.
Mixed Woodland	<i>Quercus agrifolia</i> Woodland Alliance (Coast live oak woodland)	4.7	Buffer Zone, Shop & Maintenance Area, and Drainage Area No. 4.
Mixed Woodland	<i>Platanus racemosa</i> – <i>Quercus agrifolia</i> Woodland Alliance (California sycamore woodlands)	0.9	Buffer Zone, and Former Sandblast Area.
Arroyo Willow Thicket	<i>Salix lasiolepis</i> Shrubland Alliance (Arroyo willow thickets)	0.4	Drainage Area No. 4, Chevron Pipeline Area, Pipeline Bluff Crossing Area, and Former Sandblast Area.
Coastal Scrub	<i>Artemisia californica</i> Shrubland Alliance (California sagebrush scrub)	0.6	Buffer Zone, Drainage Area No. 4, and Former Marketing Terminal Area.
Coastal Scrub	<i>Atriplex lentiformis</i> Shrubland Alliance (Quailbush scrub)	1.8	Pipeline Bluff Crossing Area, Pier Parking Lot, and Former Sandblast Area.
Coastal Scrub	<i>Baccharis pilularis</i> Shrubland Alliance (Coyote brush scrub)	2.1	Pier Parking Lot, and Former Sandblast Area.
Coastal Scrub	<i>Baccharis salicifolia</i> Shrubland Alliance (Mulefat thickets)	0.06	Drainage Area No. 4.
Coastal Scrub	<i>Isocoma menziesii</i> Shrubland Alliance (Menzies's golden bush scrub)	0.4	Pier Parking Lot.
Chaparral	<i>Heteromeles arbutifolia</i> Shrubland Alliance (Toyon chaparral)	0.9	Drainage Area No. 4.

Chaparral	<i>Rhus integrifolia</i> Shrubland Alliance (Lemonade berry scrub)	0.7	Pier Parking Lot, and Former Sandblast Area.
Chaparral	<i>Sambucus nigra</i> Shrubland Alliance (Blue elderberry stands)	0.2	Former Marketing Terminal Area.
Iceplant Mat	<i>Carpobrotus edulis</i> or Other Ice Plants Semi-Natural Herbaceous Stands (Ice plant mats)	1.6	Pipeline Bluff Crossing Area, and Pier Parking Lot.
Annual Grassland	<i>Brassica (nigra)</i> and Other Mustards Semi-Natural Herbaceous Stands (Upland mustards)	6.6	Former Nursery Area, Former Marketing Terminal Area, and Chevron Pipeline Area.
Annual Grassland	<i>Bromus diandrus</i> or <i>hordaceous</i> Semi-Natural Herbaceous Stands (Annual brome grasslands)	2.5	Former Nursery Area, Former Marketing Terminal Area, and Chevron Pipeline Area.
Developed Land	Not specified (mostly bare ground or patchy ruderal vegetation)	23.9	Main Plant Area, Shop and Maintenance Area, and Chevron Pipeline Area.

**Tree Windrows** (MCV2: *Eucalyptus globulus* or *camaldulensis* Semi-Natural Woodland Stands [Eucalyptus groves]; *Tamarix* spp. Semi-natural Shrubland Stands [Tamarisk thickets]). Tree windrows comprised mostly of blue gum (*Eucalyptus globulus*), and to a lesser degree of athel tamarisk (*Tamarix aphylla*), occur between the Buffer Zone and Former Marketing Terminal Area, along both sides of Dump Road, on both sides of the MSRC Lease Area, and along the east edge of the entire Project Site from the Peninsula Area, south along the Main Plant Area. The eastern edge of the Former Marketing Terminal Area also supports a row of Chinese elm (*Ulmus parvifolia*) trees. Tree windrows were first introduced at the Project Site as windbreaks for agricultural fields, and later to screen oil and gas facilities.

**Mixed Woodland** (MCV2: *Quercus agrifolia* Woodland Alliance [Coast live oak woodland]; *Platanus racemosa* – *Quercus agrifolia* Woodland Alliance [California sycamore woodlands]). Trees and intervening areas of non-native grassland occur within the Buffer Zone, form a woodland community. The trees include coast live oak (*Quercus agrifolia*) and western sycamore (*Platanus racemosa*), but are also intermixed with Monterey pine, Monterey cypress (*Hesperocyparis macrocarpa*) trees, or abut Eucalyptus groves or tree windrows within the Buffer Zone. Open areas between tree clusters support perennial rye grass (*Festuca perennis*), slender wild oats (*Avena barbata*), and hare barley (*Hordeum murinum*). This area was planted to provide a buffer between the Former Marketing Terminal and the Concha Loma residential neighborhood to the west.

Smaller, more isolated patches of mixed woodland trees occur along the margins of the Shop and Maintenance Area, supporting coast live oak, Oregon ash and non-native dawn

redwood trees abutting the tamarisk and eucalyptus windrows. Stands of non-native trees are labeled as Ornamental on the attached vegetation map.

**Coastal Scrub and Chaparral** (MCV2: *Artemisia californica* Shrubland Alliance [California sagebrush scrub]; *Atriplex lentiformis* Shrubland Alliance [Quailbush scrub]; *Baccharis pilularis* Shrubland Alliance [Coyote brush scrub]; *Baccharis salicifolia* Shrubland Alliance [Mulefat thickets]; *Isocoma menziesii* Shrubland Alliance [Menzies's golden bush scrub]; *Heteromeles arbutifolia* Shrubland Alliance [Toyon chaparral]; *Rhus integrifolia* Shrubland Alliance [Lemonade berry scrub]; *Sambucus nigra* Shrubland Alliance [Blue elderberry stands]). Portions of the southern end of the Project Site support remnant natural stands and restored areas of coastal scrub and chaparral communities, including at Drainage Area No. 4, the southernmost portion of the Former Marketing Terminal Area, the entrance to the Pier Parking Lot, Former Sandblast Area, and Pipeline Bluffs Crossing Area. Dominant or co-dominant species in these areas include coyote brush (*Baccharis pilularis*), bush sunflower (*Encelia californica*), purple sage (*Salvia leucophylla*), toyon (*Heteromeles arbutifolia*), quailbush (*Atriplex lentiformis*), California sagebrush (*Artemisia californica*), Menzies's golden bush (*Isocoma menziesii*), blue elderberry (*Sambucus nigra* ssp. *caerulea*) and lemonadeberry (*Rhus integrifolia*).

Notably, in the Pipeline Bluffs Crossing Area are monotypic and mixed stands of quailbush scrub, mixed stands of coyote brush scrub and Menzies's golden bush scrub, which all have undergone some level of disturbance. In Drainage Area No. 4 are a planted mulefat thicket, toyon chaparral, and naturally colonized California sagebrush scrub. The southern portion of the Former Marketing Terminal Area supports a mature thicket of blue elderberry, lemonadeberry and California sagebrush.

**Iceplant Mat** (MCV2: *Carpobrotus edulis* or Other Ice Plants Semi-Natural Herbaceous Stands [Ice plant mats]). The Pipeline Bluffs Crossing Area supports a large mat of non-native iceplant (*Carpobrotus edulis* and *Mesembryanthemum* sp.), which, where present, has frequently become a naturalized and typically dominant component of bluff scrub communities.

**Annual Grasslands and Ruderal Vegetation** (MCV2: *Brassica (nigra)* and Other Mustards Semi-Natural Herbaceous Stands [Upland mustards]; *Bromus diandrus* or *hordaceous* Semi-Natural Herbaceous Stands [Annual brome grasslands]). The Main Plant Area, Shop and Maintenance Area, and Chevron Pipeline Area, which are all formerly graded, bermed, or degraded asphalt, supports patches of predominantly non-native herbaceous species such as summer mustard (*Hirschfeldia incana*), red brome (*Bromus madritensis* ssp. *rubens*), ripgut brome (*Bromus diandrus*), red-stem filaree (*Erodium cicutarium*), onionweed (*Asphodelus fistulosus*), bristly ox-tongue (*Helminthotheca echinoides*), cheeseweed (*Malva parviflora*), perennial ryegrass, freeway iceplant, Terracina spurge (*Euphorbia terracina*), smilo grass (*Stipa mileacea*), bur-clover (*Medicago polymorpha*) and English plantain (*Plantago lanceolata*). Native species were also observed throughout these areas, but in lesser concentration, including horseweed (*Erigeron canadensis*), telegraph weed (*Heterotheca grandiflora*), coyote brush, and small-flowered evening primrose (*Camissoniopsis micrantha*).

The Former Nursery Area supports an assemblage of weedy non-native species typical of repeated disturbance. Dominant species originally observed in 2004 included cheeseweed,



wild radish (*Raphanus sativus*) and summer mustard. The Former Nursery Area was hydroseeded with a native herbaceous seed mix following removal of pesticide-affected soils in 2012 but has since become mostly recolonized with its former non-native dominants, in addition to the emergence of succulent lupine (*Lupinus succulentus*) and California poppy (*Eschscholzia californica*) included in the seed mix. Similar conditions supporting non-native annual grasses and other herbaceous cover (e.g., English plantain and Terracina spurge, but little or no native species) are present in the Former Marketing Terminal Area immediately south of its developed portion.

**Arroyo Willow Thicket (MCV2: *Salix lasiolepis* Shrubland Alliance [Arroyo willow thickets])**. The Project Site supports three (3) small patches of arroyo willow thicket with arroyo willow (*Salix lasiolepis*) as the dominant tree species in the overstory. Understory vegetation typically includes western ragweed (*Ambrosia psilostachya*), tall flatsedge (*Cyperus eragrostis*, in wetter years), bristly ox-tongue (*Picris echioides*), and/or curly dock (*Rumex crispus*) or is bare of understory vegetation due to a thick, closed canopy.

### 3.0 TREE RESTORATION

For the purposes of this section, “protected trees” refers to native trees (including western sycamore, coast live oak, and arroyo willows), as well as windrow trees that are part of a contiguous open space system across the Carpinteria bluffs including various locations throughout the Project Site. In accordance with the City of Carpinteria General Plan and Local Coastal Plan (Policy OSC-2i) when a tree is approved by the City for removal, it shall be required to be replaced at a ratio appropriate to ensure infill of any gap created in the windrow and with a tree type and size to be approved by the City. As part of Project Site restoration, Chevron proposes to replace the removed trees with native tree species to replace the canopy habitat that will be temporarily lost.

#### 3.1 TREE REPLACEMENT

A total of 62 live trees were tallied within the Project disturbance footprint: Sixty of the trees evaluated are blue gum (*Eucalyptus globulus*) trees, which are planted in the Main Plant Area middle east-west windrow, the Main Plant Area southern north-south windrow, and in the Chevron Pipeline Area east-west windrow. Two of the trees evaluated are Monterey cypress (*Hesperocyparis macrocarpa*) trees, which are planted in the southern portion of the Main Plant Area, adjacent to the fence that borders the Union Pacific railroad right-of-way. Tree impacts (removals) are estimated at 4.1 percent of the entire tree population at the Project Site (Padre, 2021c).

Native replacement trees will be planted to offset Project-related losses of canopy habitat for raptors and songbirds. Tree windrows known to historically house a monarch butterfly aggregation in the Buffer Zone Area will not be affected by Project activities. The Project Site currently supports approximately 225 coast live oak, 84 western sycamore, 52 blue elderberry (*Sambucus nigra ssp. caerulea*), and 135 toyon (*Heteromeles arbutifolia*) trees (or shrubs that may become trees). Replacement of non-native trees with these native species at a ratio of 1:1 is proposed in areas that would expand native vegetation onsite, or possibly to create new habitat patches within portions of the property that are not slated for any developmental purpose (Padre, 2021c). Replacement trees will be maintained and monitored similarly as described below for other container plants.

#### 3.2 TREE PROTECTION

All ground disturbance within 10 feet of the canopy dripline of protected trees (protected zone) will be monitored by a certified arborist or qualified biologist with tree care experience. Protected zones will be marked in the field using fencing and/or flagging. Excavation activities within the protected zone will be allowed if soil sampling indicates soils within the protected zone exceed remediation targets and work is conducted with hand tools only. Soil removed from the protected zone will be replaced with imported clean soil within 48 hours of completion of excavation. All trees affected by excavation within the protected zone will be monitored quarterly to detect any loss of vigor.

### **3.3 WILLOW PRESERVATION**

Willows within the FSBA and DA4 will be preserved through complete avoidance of the Operational Area in which the willow thicket occurs, or if necessary, temporary installation of construction fencing around each stand of trees throughout the duration of work.

## **4.0 IMPLEMENTATION PLAN**

### **4.1 RESTORATION AREA DESCRIPTIONS**

The onshore facility and associated Project components comprise an area of approximately 55-acres that exists as an oil and gas processing facility owned and formerly operated by Chevron USA, Inc. Within the onshore facility, there are a number of functional Operational Areas that contain above ground and subsurface equipment, piping, and appurtenant facilities that will be removed entirely as part of the decommissioning Project. Following decommissioning, each Operational Area will be restored, or at a minimum, revegetated for erosion control, to the extent required to support future land use designations. The Project Site is bisected by the Union Pacific Railroad (UPRR), which divides the proposed restoration areas into northern and southern groups. The future potential land uses of each parcel will determine the final disposition and revegetation objectives for each restoration area.

#### **4.1.1 Northern Restoration Areas**

##### **4.1.1.1 Main Oil and Gas Processing Facility**

The Main Oil and Gas Processing Facility (Main Plant Area) is located on an approximately 9-acre parcel (APN 001-170-014) north of the UPRR right-of-way along the Project Site's eastern boundary. An 850-foot-long windrow of blue gum eucalyptus trees lines the eastern border of the Main Plant Area, and a 200-foot-long windrow of blue gum eucalyptus trees lines bisects the Main Plant Area in an east-west orientation. The trees located along the eastern Main Plant Area boundary are parallel to an adjacent offsite windrow on the parcel to the east of the Project Site.

Following remediation, the surface soils will be backfilled and compacted to regulatory specifications. A soil binder and annual grass and native herb seed mix will be utilized on bare ground to stabilize any exposed soils. In order to remediate contaminated soil present within the Main Plant Area, approximately 500 feet of eucalyptus windrow will need to be removed from the southeastern corner of the Main Plant Area (41 trees) and 200 feet from between equipment areas 8 and 9 (12 trees). An additional two (2) Monterey cypress trees will be removed along the southern fence line. The trees will be replaced with native trees at an appropriate location on the Project Site that will not conflict with future uses.

##### **4.1.1.2 Chevron Pipeline Area (Including Tank 861)**

The Chevron Pipeline Area is located within APN 001-170-022, which is a 5.51-acre parcel located on the southern boundary of the Project Site adjacent to the UPRR right-of-way. The Chevron Pipeline Area contains Tank 861 (T861), which is a 217,000-barrel capacity aboveground storage tank, as well as Tank 1 and Tank 2, which are both 2,000-barrel capacity aboveground storage tanks, as well as a 1,260 square foot (sq. ft.) pipeline office. All above ground equipment will be removed from the Project Site and soil remediation will be conducted throughout the Operational Area. An intermittent drainage is located along the western edge of the Chevron Pipeline Area. Approximately 0.17 acres of wetland will be impacted during remediation activities within the Chevron Pipeline Area (Padre, 2021d).

Following remediation, the upland surface soils will be backfilled and compacted to regulatory specifications. A soil binder and annual grass and native herb seed mix will be utilized

on bare ground to stabilize any exposed soils. Approximately seven (7) blue gum eucalyptus trees are proposed for removal within the Chevron Pipeline Area to allow for remediation of contaminated soils. Elevations that support drainage in this area will be included in the final grading plans for the Project Site. Any losses of wetland in this area will be mitigated by expanding the wetland area in Drainage Area No. 4 with a wetland seed mix (Table 4-1) and by encouraging the proliferation of existing wetland vegetation (e.g., willows and mulefat) at that location. The removed trees will be replaced with native trees at an appropriate location on the Project Site that will not conflict with future uses.

#### 4.1.1.3 Former Marketing Terminal Area

The Former Marketing Terminal Area (FMTA) is located within the southern half of APN 001-170-004, which is approximately 11.27 acres in total. The FMTA was used for bulk storage of Chevron gasoline and diesel fuel products. These products were subsequently loaded into tanker trucks at the Marketing Terminal for distribution to retail gas stations and other fuel users. The above ground storage tanks (ASTs), underground storage tanks (USTs), and associated appurtenances were removed from the site in 1999. An office building and shop (Annex Building), numerous, storage containers, and an equipment yard remain.

After removal of surface facilities and equipment, demolition of asphalt and concrete, and remediation within the FMTA, the soil will be backfilled and compacted to regulatory standards. A soil binder and annual grass and native herb seed mix will be utilized on bare ground to stabilize any exposed soils.

#### 4.1.1.4 Shop and Maintenance Area

The Shop and Maintenance Area is located north of the Chevron Pipeline Area within APN 001-170-023. This parcel is approximately 10.80 acres and includes the primary entrance to the Oil and Gas Processing Facility and a 4,255 sq. ft. maintenance shop building. A welding shop area, including two smaller structures that are 2,314 sq. ft. total is also present. Plant Area 1 is located along the western boundary of this parcel. Plant Area 1 is an undeveloped area located at the western portion of the Shop and Maintenance Area and is known as the "Boneyard". The Shop and Maintenance Area is bounded by native, ornamental, and fruit trees including a stand of Oregon ash, coast live oak, tamarisk, dawn redwood and avocado. Tree removal is not proposed within the Shop and Maintenance Area.

After removal of surface facilities and equipment, demolition of asphalt and concrete, and remediation within the Shop and Maintenance Area, the soil will be backfilled and compacted to regulatory standards. A soil binder and annual grass and native herb seed mix will be utilized on bare ground to stabilize any exposed soils.

#### 4.1.1.5 Marine Spill Response Corporation Lease Area

The Marine Spill Response Corporation (MSRC) Lease Area is located in the northeastern portion of APN 001-170-023. The area is approximately 3.4 acres and was formerly leased to Clean Seas but is now utilized by MSRC who supports local oil spill response operations and maintains this area for storage of oil spill response equipment. This area contains an office/conference room building as well as a small 64 sq. ft. storage building and a larger 2,100 sq. ft. garage and maintenance building. A large portion of this area is paved with asphalt. An



approximately 970-foot-long windrow of blue gum eucalyptus trees lines the northern boundary between the MSRC Area and the City Hall, as well as an approximately 260-foot-long windrow of eucalyptus and tamarisk bordering the property to the east. Tree removal is not proposed in the MSRC area.

After removal of surface facilities and equipment, demolition of asphalt and concrete, and remediation within the MSRC Lease Area, the soil will be backfilled and compacted to regulatory standards. A soil binder and annual grass and native herb seed mix will be utilized on bare ground to stabilize any exposed soils.

#### 4.1.1.6 Peninsula Area

The Peninsula Area extends northward from the MSRC Lease Area and former Sales Gas Area within APN 001-170-023. The Peninsula Area is a narrow strip of land, approximately 0.25 acres in size, and was formerly developed and utilized in support of Southern California Gas (SoCalGas) transmission pipelines corridor and access to the Sales Gas Facility and Marine Spill Response Corporation (MSRC) Lease Area. Decommissioning of any remaining facilities within the Peninsula area will be the responsibility of SoCalGas, however soil remediation is planned within this area as part of the Project. An approximately 200-foot-long windrow of non-native trees lines the eastern boundary between Peninsula Area and the neighboring property. This windrow will be removed as part of a City recreational project (skate park), however tree removal is not part of this Project.

After soil remediation within the Peninsula Area, the soil will be backfilled and compacted to regulatory standards. A soil binder and annual grass and native herb seed mix will be utilized on bare ground to stabilize any exposed soils. Work within the Peninsula Area will be completed in coordination with the City based on their project timing.

### 4.1.2 Southern Restoration Areas

#### 4.1.2.1 Former Sandblast Area

The Former Sandblast Area (FSBA) is located on the eastern portion of APN 001-170-021; a 10.02-acre parcel located south of the UPRR right-of-way and north of the beach along the bluffs. The FSBA contains a series of shallow subsurface pipelines that are proposed for removal. The FSBA was previously restored and revegetated following soil remediation activities completed in 2011. The existing plant community consists of coastal bluff scrub species including coyote brush, bush sunflower, purple sage, toyon, big saltbush, California sagebrush and lemonadeberry.

Following the removal of subsurface pipelines, the FSBA will be backfilled and graded to match the existing topography of the area. The FSBA will be planted with native shrubs and seeded with a native shrub seed mix to match the existing vegetation along the bluff. The soil may be augmented, if needed.

#### 4.1.2.2 Gravel Pier Parking Lot

The Pier Parking Lot is located within the middle to eastern portion of APN 001-170-021 (10.02 acres total and 2.5 acres of restoration area) and is comprised of a paved access roadway from Dump Road, an upper paved lot and lower gravel parking lot, and access roadway to the

Casitas (Carpinteria) Pier causeway. Due to on-going use of the upper paved lot and the roadway to the pier, only the lower gravel parking lot will be removed and restored.

The gravel parking lot will be disced, ripped to reduce soil compaction, soil augmented, planted with native shrubs and seeded with a native shrub seed mix to match the existing native shrubs and vegetation along the bluff and adjacent Carpinteria Tar Pits Park and Vista Trail.

#### 4.1.2.3 Bluff and Cliff Side Area (Pipeline Crossings)

The Bluff Area is located within the eastern edge of Tar Pits Park and will consist of ground disturbance within the pipeline corridor associated with the removal of the Marine/Marketing Terminal Pipeline Bundles. The plant communities in the Bluff Area are dominated by invasive ice plant (*Carpobrotus edulis* and *Mesembryanthemum* spp.) within a community of coastal scrub species. The Bluff Area is not expected to require soil remediation and consists of two ground-level vaults with minor above ground infrastructure. Decommissioning activities in the Bluff Area will consist primarily of excavation and removal of subsurface pipelines. Restoration of the bluff area will consist of native seed mix and planted shrubs to match the existing native vegetation along the bluff and adjacent Carpinteria Tar Pits Park and Vista Trail. Aside from revegetation of the access routes and excavation limits, the bluff area will be left as-is. For the removal of pipelines from the bluff and cliff, an analysis of the potential for coastal erosion processes was performed (Padre, 2021e). Additional restoration and soil control methods may be implemented consistent with this analysis to reduce the potential for failure of the cliff side following disturbance along the bluff, cliff and beach.

## 4.2 REVEGETATION GOALS

### 4.2.1 Northern Operational Areas

Operational Areas within the Main Plant Facilities (north of the Union Pacific Railroad) consist of ruderal vegetation, non-native tree windrows and are primarily disturbed by the ongoing oil and gas operations. Following the decommissioning of all equipment and removal of Project facilities, the Project Site will likely be zoned for Planned Unit Development (PUD) and will be revegetated in such a manner to support future land uses at the Project Site. The goal for the Main Plant Facilities areas will be to support herbaceous vegetation that will reduce wind and water erosion until final disposition of the property is determined.

To facilitate soil remediation, removal of 53 non-native blue gum eucalyptus trees and two (2) Monterey cypress trees will be conducted along the interior, eastern, and southern borders of the Main Plant Area, and an additional seven (7) blue gum eucalyptus trees will be removed from the southern edge of the Chevron Pipeline Area. Removal of non-native trees and replacement with native trees will increase the native species diversity on the Project Site, reduce the loss of canopy and roosting habitat, and be beneficial for coastal migratory and resident birds.

### 4.2.2 Pier Parking Lot and Former Sandblast Area

Following surface and subsurface facilities demolition (including asphalt removal) and subsurface pipeline removal, both the Gravel Pier Parking Lot Area and Former Sandblast Area will be restored and revegetated to coastal sage scrub habitats. These two Operational Areas will likely be zoned in support of recreational land uses, adjacent to the Carpinteria Vista Bluff

Trail and Tar Pits Park, and therefore, will be restored to support a native plant community that is consistent with nearby undisturbed bluff areas and adjacent native plant communities.

#### **4.2.3 Bluff Pipeline Crossing Area**

Following subsurface pipeline removal, the Bluff Pipeline Crossing Area will be restored to pre-Project conditions and will continue to serve a beneficial aesthetic purpose along the Carpinteria Vista Bluff Trail. This area will be planted with native species present in adjacent areas, to blend into the surrounding habitat.

#### **4.3 SCHEDULE**

The implementation schedule will be devised to maximize the potential for success. Soil removal and backfill is currently scheduled to begin Summer 2022 and will occur intermittently over the course of three years. Hydroseeding will be completed following soil remediation prior to winter rains of each work year. Planting will be conducted in fall and early winter, to the extent feasible, to take advantage of rainfall. Irrigation will be provided as needed through the first dry season after planting.

#### **4.4 SITE PREPARATION**

Each Restoration Area will be backfilled with clean soil, as needed, and assessed for excessive soil compaction. If needed, the Restoration Area will be ripped to a depth of 12 inches, with ripping teeth spaced no more than 18 inches apart. If the period between completion of backfill and seeding is expected to be more than two months, a pre-emergent herbicide will be applied to the excavated areas immediately after backfilling is completed.

#### **4.5 SOIL AMENDMENTS**

The source of backfill material is not known at this time. Backfilled areas will be assessed for soil texture and soil organic matter content. If determined to be necessary to support plant growth, soil amendments will be added as part of ripping or within individual planting holes. Soil amendments may include compost, sand and/or weed-free pre-prepared topsoil.

#### **4.6 REVEGETATION METHODS**

##### **4.6.1 Northern Restoration Areas**

To support future land use and prevent erosion, each area north of the UPRR will be hydroseeded with an annual grass and native herb seed mix (Table 4-1). Hydroseeding will be conducted to prevent seed predation, reduce weed colonization and reduce erosion. The planting area will be watered prior to hydroseeding. A mixture of seed, legume inoculant, appropriate binder, wood fiber (500 pounds per acre) and compost (1,200 pounds per acre) will be applied using a hydroseeder. Seed will be added to the hydroseeder tank immediately prior to hydroseeding to minimize seed mortality and enhance germination.

Native tree replacements will be planted to reduce the loss of canopy coverage originally provided by the non-native tree windrows or individual trees planned for removal. Native tree replacement will consist of coast live oak (*Quercus agrifolia*) and western sycamore (*Platanus racemosa*) and will be planted to benefit the species diversity and partially wooded setting of the Project Site. To ensure a complete 1:1 replacement ratio of trees removed at the Project Site, a 1.5:1 planting ratio is proposed.

#### 4.6.2 Southern Restoration Areas

Areas south of the UPRR that are impacted by surface and subsurface demolition and other soil remediation disturbance will be planted with coastal bluff scrub species to blend into the surrounding plant community (Table 4-1).

The larger restoration area within the Gravel Pier Parking Lot will also be broadcast seeded or hydroseeded with native shrubs. In addition, over time native colonization of scrub species from the adjacent coastal scrub plant communities are expected to provide additional cover within the restoration areas.

**Table 4-1. Plant Palette**

Species	Planting Method <sup>1</sup>
<b>Tree Replacements<sup>2</sup></b>	
Coast live oak ( <i>Quercus agrifolia</i> )	5-gallon container
Western sycamore ( <i>Platanus racemosa</i> )	5-gallon container
<b>Annual Grass and Native Herb Seed Mix</b>	
Blando brome ( <i>Bromus hordaceus</i> )	Seed (pure, live)
Rose clover ( <i>Trifolium hirtum</i> )	Seed (pure, live)
Zorro annual fescue ( <i>Vulpia myuros</i> )	Seed (pure, live)
California poppy ( <i>Eschscholzia californica</i> )	Seed (pure, live)
Succulent lupine ( <i>Lupinus succulentus</i> )	Seed (pure, live)
Narrow-leaf milkweed ( <i>Asclepias fascicularis</i> )	Seed (pure, live)
<b>Native Shrub Seed Mix<sup>3</sup></b>	
California bush sunflower ( <i>Encelia californica</i> )	Seed (pure, live)
Coyote brush ( <i>Baccharis pilularis</i> )	Seed (pure, live)
Purple sage ( <i>Salvia leucophylla</i> )	Seed (pure, live)
California buckwheat ( <i>Eriogonum fasciculatum</i> )	Seed (pure, live)
<b>Coastal Scrub Plantings</b>	
Big saltbush ( <i>Atriplex lentiformis</i> )	1-gallon container
Coyote brush ( <i>Baccharis pilularis</i> )	1-gallon container
California bush sunflower ( <i>Encelia californica</i> )	1-gallon container
Lemonadeberry ( <i>Rhus integrifolia</i> )	1-gallon container
<b>Wetland Seed Mix</b>	
Mulefat ( <i>Baccharis salicifolia</i> )	Seed (pure, live)

Species	Planting Method <sup>1</sup>
Toad rush ( <i>Juncus bufonius</i> )	Seed (pure, live)
Bent-grass ( <i>Agrostis exarata</i> )	Seed (pure, live)
Willow dock ( <i>Rumex salicifolius</i> )	Seed (pure, live)
Willow weed ( <i>Polygonum lapithifolium</i> )	Seed (pure, live)
<p>Notes: <sup>1</sup> The quantity and source of native seed mix and individual plants will be prepared when disturbance areas and land use designations are finalized and will be adjusted as needed based on the actual disturbance area and post-soil removal site conditions.</p> <p><sup>2</sup> Native tree replacements may not necessarily be planted in the same Restoration Area from which the non-native windrow tree was removed from.</p> <p><sup>3</sup> To be used in the Southern Restoration Areas only.</p>	

#### 4.7 IRRIGATION

The source of irrigation water will be on-site potable supply lines. A drip irrigation system will be installed and maintained, including above-ground headers to tree and shrub plantings. Alternatively, a pump-fed portable water tank may be used with temporary sprinklers to irrigate these plantings. Container plants in the Bluff Pipeline Crossing Area may require manual watering utilizing personal backpack sprayers or a portable water buffalo. The irrigation system and/or supplemental watering will be used to water container stock immediately after planting, and as needed until root systems are fully established. The intent will be to water deeply and sparingly, to facilitate development of a deep root system and terminate irrigation as soon as possible. Additional irrigation will be conducted as needed during the first spring and summer after planting, or longer, depending on evaluations of plant stress. The irrigation plan will be reviewed by a registered geotechnical engineer to ensure bluff erosion from run-off is avoided.

Irrigation is not planned in the seeded Northern Restoration Areas because the hydroseed mixes are drought tolerant and seeding will be scheduled in the fall or early winter to take advantage of rainfall.



## **5.0 MONITORING PLAN**

### **5.1 PERFORMANCE GOALS AND REMEDIAL ACTIONS**

The following performance goals and remedial actions are recommended to ensure survival and to meet agency requirements for restoration success, once established.

#### **5.1.1 Percent Plant Cover**

The seeded portions of the Northern Restoration Areas should attain at least 50 to 75 percent (or greater) total plant cover within 3 years. The seeded portions of the Southern Restoration Areas should attain at least 50 to 75 percent (or greater) native plant cover within 3 years. If the percent survival performance standard (see below) is met in areas that were also planted with container plants, the plant cover standard does not apply. Additional planting should be conducted if the native plant cover standard is not met.

#### **5.1.2 Percent Survival**

For shrubs, at least 80 percent of container plants should survive the first year after planting; with 90 percent survival thereafter. If the plant cover performance standard is met in areas that were also planted with container plants, the percent survival standard for shrubs does not apply. Additional planting should be conducted if this standard is not met.

For trees, survival should be monitored for a minimum of 3 years to confirm their establishment. By the end of the 3-year period, the number of live trees planted should be at least equal to the number of trees removed, equaling 100 percent survival or greater. To ensure the success of this goal, a planting ratio of 1.5:1 is proposed.

#### **5.1.3 Invasive Plants**

No woody invasive species should be present, and herbaceous invasive species cover should not exceed 5 percent. For the purposes of this standard, "invasive species" means the species is scored as medium or high by the California Invasive Plant Council.

### **5.2 MONITORING ACTIVITIES**

#### **5.2.1 Northern Restoration Areas**

Qualitative botanical surveys will be conducted by identifying dominant plant species in the restoration areas and preparing a list of native and non-native species found. The intent is to document the success of the annual grass and native herb seed mix and tree plantings and excluding invasive plants with periodic weeding or timely herbicide spraying.

##### **5.2.1.1 Methods**

A general walking survey of the area will be conducted to record observations of germination, estimates of native and non-native cover, and identify maintenance needs. Photo-monitoring stations will be established during Year 0 at representative locations throughout the Restoration Areas, to document baseline conditions and progress toward the performance criteria. These permanent photo-monitoring stations will be marked in the field and/or recorded with a Global Positioning System (GPS) unit. Photographs will be taken at least annually in the spring from the photo-monitoring stations.

Survival surveys of native tree plantings will be conducted annually. Survival surveys will be conducted by counting the number of live and dead trees. This task will also include an evaluation of the adequacy of irrigation, extent of weed infestation and herbivory losses. These surveys will be conducted in late spring-early summer to document increase in cover associated with spring growth.

### **5.2.2 Southern Restoration Areas**

Monitoring activities will include establishment of photo-documentation stations, survival surveys, botanical surveys, and line intercept surveys. Photographs will be taken during each monitoring visit at established stations to document overall progress. Survival surveys will be conducted to determine percent mortality of each planted species. Botanical surveys will be conducted to document the increase in the number and proportion of native species over time. Line intercept surveys will be conducted where container stock was installed to determine the percent cover of planted species, and the cover of invasive species.

#### **5.2.2.1 Methods**

Color photographs will be taken at established, permanent monitoring stations. The compass direction, time, date, photograph number and location will be recorded and documented on data sheets.

Survival surveys will be conducted by counting the number of live and dead container plants. This task will also include an evaluation of the adequacy of irrigation, extent of weed infestation and herbivory losses. These surveys will be conducted in late spring-early summer to document increase in cover associated with spring growth.

Botanical surveys will be conducted by identifying each plant species in the restoration areas and preparing a list of native and non-native species found. The intent is to document the success of native plants in excluding non-native plants and periodic weeding.

Line transects will be established, and plant species identity and length of intercept will be determined for the entire transect. The development of a native plant community and eradication of non-native plant species will be documented by the percent cover and percent native species in the restoration areas as it changes over time and approaches that of undisturbed adjacent vegetation. Transect data will be collected at the time of the survival surveys.

### **5.2.3 Personnel**

Qualified biologists will be used to conduct all monitoring activities. Staff turnover will be minimized to ensure continuity of activities and methodology is maintained.

## **5.3 MONITORING SCHEDULE**

Restoration will be monitored for three years following planting in each Operational Area. Monitoring events will be scheduled within the blooming season appropriate for each year, as well as follow-up site visits to track invasive plant populations and potential maintenance requirements.

## **5.4 ADAPTIVE MANAGEMENT**

Adaptive management will be implemented to improve restoration success and achieve the performance criteria. Adaptive management will be based upon observations made during

monitoring visits and/or additional site visits, as needed. Revegetation areas that are not achieving the performance criteria will be identified and the cause addressed. Adaptive management may include but is not limited to, changes to the planting/seeding palette, irrigation methods, use of soil amendments, and invasive plant removal methods. Recommendations for adaptive management will be made by the restoration biologist.

## **5.5 ANNUAL REPORTS**

### **5.5.1 Number of Reports**

Annual reports will be submitted for a period of three years after planting.

### **5.5.2 Contents**

The annual report will include the following (as a minimum):

- Project name and applicant name, address and phone number;
- Coastal permit numbers;
- Summary of project impacts and dates of construction period;
- Summary of restoration activities during reporting period;
- Names and qualifications of all monitoring personnel;
- Reporting forms and photographs;
- Discussion of monitoring methods and dates activities were completed;
- Comparison of collected data to the success criteria;
- Discussion of problems encountered, and probable reasons success criteria were or were not attained;
- Discussion of activities conducted to remediate restoration areas which failed to meet the success criteria;
- Recommendations to modify the success criteria based on past performance;
- Recommendations for adaptive management methods to minimize future mortality, excessive weeds, herbivory losses, slow growth and human impacts; and
- Discussion of storm-related damage (if any), activities conducted to repair damage and recommendations to minimize future damage.

## 6.0 REFERENCES

- Padre Associates, Inc. 2010. Addendum to the Biological Impact Study (December 2004) for the Carpinteria Gas Plant Pesticide Remediation. Prepared for County of Santa Barbara Planning and Development, Energy Division. August.
- \_\_\_\_\_. 2011. Botanical Survey Report for the Carpinteria Source Removal Project (Project 04-1167-DP/CDP). Prepared for Chevron Environmental Management Company. May.
- \_\_\_\_\_. 2012. Project Completion Report for Biological Survey, Monitoring and Restoration Oversight for Carpinteria Oil and Gas Processing Facility Soil Remediation/Restoration Project (Final Report, No. 10), CDFG Notification No. 1600-2011-0088-R5. Prepared for Chevron Environmental Management Company. February.
- \_\_\_\_\_. 2021a. Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project Description, City of Carpinteria, Santa Barbara County, California. June.
- \_\_\_\_\_. 2021b. Terrestrial Biological Resources Study, Carpinteria Oil and Gas Processing Facilities, City of Carpinteria, Santa Barbara County, California. June.
- \_\_\_\_\_. 2021c. Tree Report, Carpinteria Oil and Gas Processing Facilities, City of Carpinteria, Santa Barbara County, California. June.
- \_\_\_\_\_. 2021d. Wetland Delineation Report, Carpinteria Oil and Gas Processing Facilities, City of Carpinteria, Santa Barbara County, California. June.
- \_\_\_\_\_. 2021e. Bluff Retreat Evaluation Report, Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities, Carpinteria, Santa Barbara County, California. June.

## **CARPINTERIA OIL & GAS PROCESSING FACILITIES – PLANT LIST**



**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITIES - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot
<b>CUPRESSACEAE (Cypress Family)</b>												
Monterey cypress	<i>Hesperocyparis macrocarpa</i>	T	NL	I		X	X	X		X	X	X
Dawn redwood	<i>Metasequoia glyptostroboides</i>	T	NL	I						X		
<b>PINACEAE (Pine Family)</b>												
Aleppo pine	<i>Pinus halepensis</i>	T	NL	I			X				X	
Monterey pine	<i>Pinus radiata</i>	T	NL	I				X	X	X		
<b>TAXODIACEAE (Bald Cypress Family)</b>												
Redwood	<i>Sequoia sempervirens</i>	T	NL	I			X					
<b>ARAUCARIACEAE (Araucaria Family)</b>												
Norfolk island pine	<i>Araucaria excelsa</i>	T	NL	I					X			
<b>ADOXACEAE (Muskroot Family)</b>												
Blue elderberry	<i>Sambucus nigra ssp. caerulea</i>	T	FACU	N				X	X			X
<b>AIZOACEAE (Fig-Marigold Family)</b>												
Crystalline iceplant	<i>Mesembryanthemum crystallinum</i>	H	FACU	I	Moderate						X	
Baby sun rose	<i>Mesembryanthemum cordifolium</i>	V	NL	I			X					
Freeway iceplant	<i>Carpobrotus edulis</i>	S	NL	I	High					X	X	X
<b>ANACARDIACEAE (Sumac or Cashew Family)</b>												
Laurel sumac	<i>Malosma laurina</i>	S	NL	N		X						
Lemonade berry	<i>Rhus integrifolia</i>	S	NL	N		X		X	X		X	X
Brazilian pepper tree	<i>Schinus terebinthifolius</i>	T	NL	I	Moderate		X	X				
<b>APIACEAE (Carrot Family)</b>												
Poison hemlock	<i>Conium maculatum</i>	H	FACW	I	Moderate	X		X				
Fennel	<i>Foeniculum vulgare</i>	H	NL	I	Moderate	X						X
<b>APOCYNACEAE (Dogbane Family)</b>												
Oleander	<i>Nerium oleander</i>	S	NL	I			X	X				
<b>ARALIACEAE (Ginseng Family)</b>												
English ivy	<i>Hedera helix</i>	V	NL	I	High		X	X				
<b>ASPARAGACEAE (Asparagus Family)</b>												
Century plant	<i>Agave americana</i>	S	UPL	I						X		
Dracaena	<i>Dracaena sp.</i>	S	NL	I						X		
<b>ASPHODELACEAE (Asphodel Family)</b>												
Aloe	<i>Aloe sp.</i>	S	NL	I						X		
Onionweed	<i>Asphodelus fistulosus</i>	H	NL	I	Moderate	X				X		X
<b>ASTERACEAE (Sunflower Family)</b>												
Western ragweed	<i>Ambrosia psilostachya</i>	H	FACU	N		X		X	X	X	X	X
California sagebrush	<i>Artemisia californica</i>	H	NL	N		X			X		X	X
Mugwort	<i>Artemisia douglasiana</i>	H	FAC	N		X		X			X	
Coyote brush	<i>Baccharis pilularis</i>	S	NL	N		X		X	X	X	X	X
Mule fat	<i>Baccharis salicifolia</i>	S	FAC	N				X			X	
Italian thistle	<i>Carduus pycnocephalus</i>	H	NL	I	Moderate		X	X				
Tocalote	<i>Centaurea melitensis</i>	H	NL	I	Moderate	X						X
Bull thistle	<i>Cirsium vulgare</i>	H	FACU	I	Moderate							X
Brass buttons	<i>Cotula coronopifolia</i>	H	OBL	I	Limited					X		
Artichoke	<i>Cynara scolymus</i>	H	NL	I				X				
German Ivy	<i>Delairea odorata</i>	V	NI	I	High	X		X				
California bush sunflower	<i>Encelia californica</i>	S	NL	N		X				X	X	X
Horseweed	<i>Erigeron canadensis</i>	H	FACU	N						X		
Crown daisy	<i>Glebionis coronaria</i>	H	NL	I	Moderate					X		
Bristly ox-tongue	<i>Helminthotheca echioides</i>	H	FAC	I	Limited		X	X	X	X		
Telegraph weed	<i>Heterotheca grandiflora</i>	H	NL	N						X		X
Rough cat's-ear	<i>Hypochaeris radicata</i>	H	NL	I	Moderate			X	X			X
Coastal golden-bush	<i>Isocoma menziesii</i>	S	NL	N		X				X		X

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**CARPINTERIA OIL AND GAS PROCESSING FACILITIES - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot
Prickly lettuce	<i>Lactuca serriola</i>	H	FACU	I		X		X		X		
Narrowleaf cottonrose	<i>Logfia gallica</i>	H	NL	I						X		
Green everlasting	<i>Pseudognaphalium californicum</i>	H	NL	N		X				X		
Cudweed	<i>Pseudognaphalium canescens ssp. microcephalum</i>	H	FACU	N		X				X		
Cotton-batting plant	<i>Pseudognaphalium stramineum</i>	H	FAC	N						X		
Milk thistle	<i>Silybum marianum</i>	H	NL	I	Limited					X		
Prickly sow thistle	<i>Sonchus asper</i>	H	FAC	I		X						
Common sow thistle	<i>Sonchus oleraceus</i>	H	UPL	I			X	X		X		X
<b>BIGNONIACEAE (Bignonia Family)</b>												
Trumpet creeper	<i>Campsis radicans</i>	V	NL	I				X				
Cape honeysuckle	<i>Tecoma capensis</i>	S	NL	I				X	X			
<b>BORAGINACEAE (Borage Family)</b>												
Large-flowered popcorn flower	<i>Cryptantha intermedia</i>	H	NL	N						X		
Pride of Madeira	<i>Echium candicans</i>	S	NL	I	Limited			X		X		
Branching phacelia	<i>Phacelia ramosissima</i>	H	FACU	N						X	X	X
<b>BRASSICACEAE (Mustard Family)</b>												
Shepherd's purse	<i>Capsella bursa-pastoris</i>	H	FACU	I						X		
Summer mustard	<i>Hirschfeldia incana</i>	H	NL	I	Moderate	X	X	X	X	X	X	X
Wild radish	<i>Raphanus sativus</i>	H	NL	I	Limited		X	X	X	X		
London rocket	<i>Sisymbrium irio</i>	H	NL	I	Limited					X		
<b>CACTACEAE (Cactus Family)</b>												
Mission prickly-pear	<i>Opuntia ficus-indica</i>	S	NL	I						X		
<b>CARYOPHYLLACEAE (Pink Family)</b>												
Sand-spurrey	<i>Spergularia bocconi</i>	H	FACW	I						X		
Four-leaved all-seed	<i>Polycarpon tetraphyllum</i>	H	NL	I			X					
<b>CHENOPODIACEAE (Goosefoot Family)</b>												
Big saltbush, quailbush	<i>Atriplex lentiformis</i>	S	FAC	N		X			X		X	X
Five-hook bassia	<i>Bassia hyssopifolia</i>	S	FACU	I	Limited		X		X	X		
Pitseed goosefoot	<i>Chenopodium berlandieri</i>	H	NL	N						X		
Nettle leaf goosefoot	<i>Chenopodium murale</i>	H	FACU	I						X		
Russian thistle	<i>Salsola tragus</i>	H	FACU	I	Limited				X	X		
<b>CONVOLVULACEAE (Morning-Glory Family)</b>												
Chaparral morning-glory	<i>Calystegia macrostegia ssp. intermedia</i>	V	NL	N		X	X	X				X
Bindweed	<i>Convolvulus arvensis</i>	H	NL	I			X			X		
<b>CRASSULACEAE (Stonecrop Family)</b>												
Pygmy weed	<i>Crassula connata</i>	H	FAC	N						X		
Jade plant	<i>Crassula ovata</i>	H	NL	I						X		
<b>EUPHORBIACEAE (Spurge Family)</b>												
Spotted spurge	<i>Chamaesyce maculata</i>	H	FACU	I			X			X		
Caper spurge	<i>Euphorbia lathyris</i>	H	NL	I			X					
Petty spurge	<i>Euphorbia peplus</i>	H	NL	I			X	X		X		
Carnation spurge	<i>Euphorbia terracina</i>	H	NL	N	Limited				X	X	X	
Castor bean	<i>Ricinus communis</i>	H	FACU	I	Limited		X	X	X		X	X
<b>FABACEAE (Legume Family)</b>												
Sydney golden wattle	<i>Acacia longifolia</i>	T	NL	I	Watch				X	X		
Strigose lotus	<i>Acmispon strigosus</i>	H	NL	N						X		
Miniature lupine	<i>Lupinus bicolor</i>	H	NL	N						X		
Succulent lupine	<i>Lupinus succulentus</i>	H	NL	N					X			
Collared annual lupine	<i>Lupinus truncatus</i>	H	NL	N						X		
California bur-clover	<i>Medicago polymorpha</i>	H	NL	I	Limited			X		X		
Yellow sweet clover	<i>Melilotus indicus</i>	H	FACU	I		X			X	X		X
Spring vetch	<i>Vicia sativa</i>	H	FACU	I				X	X		X	

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<b>FAGACEAE (Oak Family)</b>												
Coast live oak	<i>Quercus agrifolia</i>	T	NL	N		X	X	X	X	X		X
Scrub oak	<i>Quercus berberidifolia</i>	T	NL	N								X
<b>GERANIACEAE (Geranium Family)</b>												
Red-stemmed filaree	<i>Erodium cicutarium</i>	H	NL	I	Limited	X	X		X	X	X	
White-stemmed filaree	<i>Erodium moschatum</i>	H	NL	I						X		
Cut-leaf geranium	<i>Geranium dissectum</i>	H	NL	I	Limited			X		X		
Geranium	<i>Pelargonium sp.</i>	H	NL	I				X				
<b>GROSSULARIACEAE (Gooseberry Family)</b>												
Fuschia-flowered gooseberry	<i>Ribes speciosum</i>	S	NL	N					X			
<b>LAMIACEAE (Mint Family)</b>												
Horehound	<i>Marrubium vulgare</i>	H	FACU	I	Limited	X				X		
Rosemary	<i>Rosmarinus officianalis</i>	S	NL	I			X					
Black sage	<i>Salvia mellifera</i>	S	NL	N					X		X	
Purple sage	<i>Salvia leucophylla</i>	S	NL	N		X		X			X	X
<b>LAURACEAE (Laurel Family)</b>												
Avocado	<i>Persea americana</i>	T	NL	I						X		
<b>MAGNOLIACEAE (Magnolia Family)</b>												
Southern magnolia	<i>Magnolia grandiflora</i>	T	NL	I						X		
<b>MALVACEAE (Mallow Family)</b>												
Bull mallow	<i>Malva nicaeensis</i>	H	NL	I			X	X	X	X		
Cheeseweed	<i>Malva parviflora</i>	H	NL	I				X	X	X	X	
<b>MYOPORACEAE (Myoporum Family)</b>												
Myoporum	<i>Myoporum laetum</i>	T	NL	I	Moderate			X	X	X		
<b>MYRTACEAE (Myrtle Family)</b>												
Blue gum	<i>Eucalyptus globulus</i>	T	NL	I	Moderate			X	X	X	X	
Scarlet gum	<i>Eucalyptus ficifolia</i>	T	NL	I				X				
<b>NYCTAGINACEAE (Four O'Clock Family)</b>												
Bougainvillea	<i>Bougainvillea spectabilis</i>	S	NL	I				X	X	X		
<b>OLEACEAE (Olive Family)</b>												
Oregon ash	<i>Fraxinus latifolia</i>	T	FACW	I				X		X		
Olive	<i>Olea europaea</i>	T	NL	I	Limited			X				
<b>ONAGRACEAE (Evening Primrose Family)</b>												
Small evening primrose	<i>Camissoniopsis micrantha</i>	H	NL	N						X		X
<b>OXALIDACEAE (Oxalis Family)</b>												
Creeping wood sorrel	<i>Oxalis corniculata</i>	H	FACU	I		X	X					X
Bermuda buttercup	<i>Oxalis pes-capre</i>	H	NL	I	Moderate		X	X	X	X	X	X
<b>PAPAVERACEAE (Poppy Family)</b>												
California poppy	<i>Eschscholzia californica</i>	H	NL	N					X	X		
<b>PITTOPOURACEAE (Pittosporum Family)</b>												
Victorian box	<i>Pittosporum undulatum</i>	T	NL	I			X	X		X		
<b>PLANTAGINACEAE (Plantain Family)</b>												
English plantain	<i>Plantago lanceolata</i>	H	FAC	I	Limited	X		X	X	X	X	
Common plantain	<i>Plantago major</i>	H	FAC	I				X				
<b>PLATANACEAE (Sycamore Family)</b>												
Western sycamore	<i>Plantanus racemosa</i>	T	FAC	N		X		X		X	X	X
<b>POLYGONACEAE (Buckwheat Family)</b>												
California buckwheat	<i>Eriogonum fasciculatum</i>	S	NL	N								X
Seacliff buckwheat	<i>Eriogonum parvifolium</i>	S	NL	N							X	X
Common knotweed	<i>Polygonum aviculare ssp. depressum</i>	H	FAC	I				X				
Curly dock	<i>Rumex crispus</i>	H	FAC	I	Limited		X	X	X	X	X	
<b>MYRSINACEAE (Myrsine Family)</b>												
Scarlet pimpernel	<i>Anagallis arvensis</i>	H	FAC	I		X	X			X		X

**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITIES - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot
<b>RANUNCULACEAE (Buttercup Family)</b>												
Virgin's bower	<i>Clematis ligusticifolia</i>	V	FAC	N			X			X		
<b>ROSACEAE (Rose Family)</b>												
California rose	<i>Rosa californica</i>	S	FAC	N							X	
California blackberry	<i>Rubus ursinus</i>	PV	FAC	N							X	
Cotoneaster	<i>Cotoneaster pannosa</i>	S	NL	I	Moderate			X		X		
Toyon	<i>Heteromeles arbutifolia</i>	S	NL	N				X	X		X	
Peach	<i>Prunus persica</i>	S	NL	I			X	X		X		
Firethorn	<i>Pyracantha koidzumii</i>	S	NL	I				X				
Blackberry	<i>Rubus pensilvanicus</i>	V	NL	I			X	X				
<b>RUBIACEAE (Madder Family)</b>												
Common bedstraw	<i>Galium aparine</i>	H	FACU	N						X		
<b>SALICACEAE (Willow Family)</b>												
Arroyo willow	<i>Salix lasiolepis</i>	T	FACW	N		X	X	X		X		X
<b>SAURURACEAE (Lizards-tail Family)</b>												
Yerba mansa	<i>Anemopsis californica</i>	H	OBL	N							X	
<b>SOLANACEAE (Nightshade Family)</b>												
Tree tobacco	<i>Nicotiana glauca</i>	S	FAC	I	Moderate					X		X
Nightshade	<i>Solanum douglasii</i>	H	FAC	N			X	X				
Black nightshade	<i>Solanum nigrum</i>	H	FACU	I		X						
Purple nightshade	<i>Solanum xanti</i>	S	NL	N								X
<b>TAMARICACEAE (Tamarisk Family)</b>												
Athel tamarisk	<i>Tamarix aphylla</i>	T	FAC	I	Limited					X		
<b>TROPAEOLACEAE (Nasturtium Family)</b>												
Garden nasturtium	<i>Tropaeolum majus</i>	H	NL	I			X	X	X			
<b>ULMACEAE (Elm family)</b>												
Chinese elm	<i>Ulmus parvifolia</i>	T	UPL	I					X			
<b>URTICACEAE (Nettle Family)</b>												
Dwarf nettle	<i>Urtica urens</i>	H	NL	I						X		
<b>VERBENACEAE (Vervain Family)</b>												
Verbena	<i>Verbena lasiostachys</i> var. <i>scabrida</i>	H	FAC	N		X						X
<b>ARECACEAE (Palm Family)</b>												
Canary Island palm	<i>Phoenix canariensis</i>	T	NL	I	Limited			X				
Mexican fan palm	<i>Washingtonia robusta</i>	T	NL	I	Moderate				X			
<b>CYPERACEAE (Sedge Family)</b>												
Tall cyperus	<i>Cyperus eragrostis</i>	H	FACW	N			X	X		X		
California bulrush	<i>Scheuchzeria palustris</i>	H	OBL	N							X	
<b>JUNCACEAE (Rush Family)</b>												
Spiny rush	<i>Juncus acutus</i> ssp. <i>leopoldii</i>	H	FACW	N							X	
<b>POACEAE (Grass Family)</b>												
Slender wild oat	<i>Avena barbata</i>	G	NL	I	Moderate	X	X	X	X	X		
Wild oat	<i>Avena fatua</i>	G	NL	I	Moderate		X	X	X			
Brachypodium	<i>Brachypodium distachyon</i>	G	NL	I	Moderate	X						
Rescue grass	<i>Bromus catharticus</i>	G	NL	I			X	X				
Ripgut grass	<i>Bromus diandrus</i>	G	NL	I	Moderate	X	X	X	X		X	X
Soft cheat	<i>Bromus hordeaceus</i>	G	FACU	I	Limited			X		X	X	
Red brome	<i>Bromus madritensis</i> ssp. <i>rubens</i>	G	UPL	I	High	X				X		X
Pampas grass	<i>Cortaderia selloana</i>	G	FACU	I	High	X	X	X				X
Bermuda grass	<i>Cynodon dactylon</i>	G	FACU	I	Moderate				X			X
Giant wildrye	<i>Elymus condensatus</i>	G	FACU	N								X
Erect veldt grass	<i>Ehrharta erecta</i>	G	NL	I	Moderate		X					
Italian ryegrass	<i>Festuca perennis</i>	G	FAC	I	Moderate			X	X			
Farmer's foxtail	<i>Hordeum murinum</i> ssp. <i>leporinum</i>	G	NI	I	Moderate	X	X	X	X	X	X	

**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITIES - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot
Goldentop grass	<i>Lamarckia aurea</i>	G	FACU	I						X		
Dallis grass	<i>Paspalum dilatatum</i>	G	FAC	I				X				
Kikuyu grass	<i>Pennisetum clandestinum</i>	G	FACU	I	Limited		X	X				
Fountain grass	<i>Pennisetum setaceum</i>	G	NL	I	Moderate							X
Pennisetum	<i>Pennisetum villosum</i>	G	NL	I	Watch	X				X		X
Annual bluegrass	<i>Poa annua</i>	G	FAC	I			X					
Smilo grass	<i>Stipa mileacea</i>	G	NL	I	Limited			X	X	X		
Purple needlegrass	<i>Stipa pulchra</i>	G	NL	N		X						
Cultivated wheat	<i>Triticum aestivum</i>	G	NL	I					X			
Rattail fescue	<i>Festuca myuros</i>	G	FACU	I	Moderate	X					X	X

Native Status Notes

N: Native (to the region)

I: Introduced

Invasiveness Notes

Invasiveness Rating from California Invasive Plant Inventory (2020)

Wetland Notes

OBL: Obligate wetland species, occurs almost always in wetlands (>99% probability)

FACW: Facultative wetland species, usually found in wetlands (67-99% probability)

FAC: Facultative species, equally likely to occur in wetland and non-wetlands (34-66% probability)

FACU: Facultative upland species, not usually found in wetlands (1-33% probability)

UPL: Upland species, almost never found in wetlands (<1% probability)

NI: No indicator has been assigned due to a lack of information to determine indicator status

NL: Not listed, assumed upland species



## **CARPINTERIA OIL & GAS PROCESSING FACILITIES – VEGETATION MAP**





**LEGEND:**

Operational Area

Vegetation Types

CS - California sagebrush scrub

AG - Annual grassland or mustards

CB - Coyote brush scrub

CYP - Monterey cypress trees

DEV - Developed (pavement, gravel, structures)

EUC - Eucalyptus groves or windrows

OAK - Coast live oak woodland

ORN - Ornamental trees

SYC - California sycamore woodland

**MAP EXTENT:**

0

50

100

FEET

Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.

**padre**  
associates, inc.  
ENGINEERS, GEOLOGISTS &  
ENVIRONMENTAL SCIENTISTS

PROJECT NAME:

CHEVRON CARPINTERIA  
OIL AND GAS PROCESSING FACILITY PROPERTIES  
SANTA BARBARA COUNTY, CA

PROJECT NUMBER:

2002-5211

DATE:

June 2021

VEGETATION MAP

FIGURE  
2A





**LEGEND:**

Operational Area

Vegetation Types

AG - Annual grassland or mustards

AG/DIST - Disturbed annual grassland or mustards

CS - California sagebrush scrub

DEV - Developed (pavement, gravel, structures)

ELD - Blue elderberry stands

EUC - Eucalyptus groves or windrows

EUC/TAM - Eucalyptus and Tamarisk thickets or windrows

MF - Mulefat thicket

OAK - Coast live oak woodland

ORN - Ornamental trees

SYC - California sycamore woodland

TOY - Toyon Chaparral

WIL - Arroyo willow thickets

**MAP EXTENT:**

0

50

100

FEET

Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.

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SANTA BARBARA COUNTY, CA

PROJECT NUMBER:

2002-5211

DATE:

June 2021

VEGETATION MAP

FIGURE 2B

Z:\GIS Projects\GIS Maps\Map\_Carpinteria\_Oil & Gas\_Facility\_Terrrestrial\_Biological\_Resources\_Study\Vegetation\_Map\_2021.mxd 6/2/2021

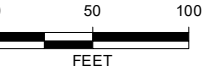
C-288





**LEGEND:**

- |                                   |                  |                                                |                                 |                                    |
|-----------------------------------|------------------|------------------------------------------------|---------------------------------|------------------------------------|
| Operational Area                  | Vegetation Types | CS - California sagebrush scrub                | GB - Golden bush scrub          | SYC - California sycamore woodland |
| AG - Annual grassland or mustards |                  | CYP - Monterey cypress trees                   | IP - Iceplant mats              | WIL - Arroyo willow thickets       |
| BARE - Bare ground                |                  | DEV - Developed (pavement, gravel, structures) | LB - Lemonade berry scrub       |                                    |
| CB - Coyote brush scrub           |                  | EUC - Eucalyptus groves or windrows            | SB - Saltbush (Quailbush) scrub |                                    |



Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.



PROJECT NAME: CHEVRON CARPINTERIA OIL AND GAS PROCESSING FACILITY PROPERTIES SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 2002-5211	DATE: June 2021

VEGETATION MAP

FIGURE  
2C

Z:\GIS Projects\GIS Maps\Map Project\Carpinteria Oil & Gas Facility\Terrestrial Biological Resources Study\Vegetation Map 2021.mxd 6/3/2021



## **Appendix C-8**

### Essential Fish Habitat Assessment



# **ESSENTIAL FISH HABITAT ASSESSMENT**

## **DECOMMISSIONING AND REMEDIATION OF THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES SANTA BARBARA COUNTY, CALIFORNIA**

**Project No. 2002-5211**

**Prepared for:**

Chevron West Coast Decommissioning Program  
3916 State Street, Suite 200  
Santa Barbara, CA 93105

**Prepared by:**

Padre Associates, Inc.  
369 Pacific Street  
San Luis Obispo, California 93401

**OCTOBER 2021**



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## 1.0 INTRODUCTION

This Essential Fish Habitat (EFH) assessment has been developed to support the proposed Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project (Project) located in the eastern portion of the City of Carpinteria, California, between U.S. Highway 101 State waters limited within the Pacific Ocean (Project Site) (Figure 1-1). This assessment is prepared in accordance with 50 Code of Federal Regulations (CFR) 600.920(g)(2) and addresses the managed fish and invertebrate taxa that could occur at the Project site.

EFH is defined as "...those waters and substrate necessary for fish spawning, breeding, feeding, or growth to maturity." "Waters," as used in this definition, are defined to include "aquatic areas and their associated physical, chemical, and biological properties that are used by fish." These may include "...areas historically used by fish where appropriate; 'substrate' to include sediment, hard bottom, structures underlying the waters, and associated biological communities." "Necessary" means, "the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem." EFH is described as a subset of all habitats occupied by a species (NOAA, 1998).

### 1.1 PROPOSED ACTION

The onshore Project Site is located in the eastern portion of the City of Carpinteria, California, between U.S. Highway 101 and the Pacific Ocean (Figure 1-1). The onshore Project Site does not support any aquatic habitats. The offshore components of the Project site are located in the adjacent nearshore waters out to the State water limits (three nautical miles) in water depths from zero to 148 feet (45 meters).

The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation at the onshore Carpinteria Oil and Gas Processing Facility to accommodate the Project Site's potential future redevelopment. Offshore pipelines will be removed using reverse installation techniques with the help of divers excavating sections of buried pipeline, as needed. The pipelines will be lifted onto an offshore barge spread and cut into segments on the deck of the barge. Alternatively, some sections of pipeline may require cutting on the seafloor and lifting segments of pipe to the Project barge. Pipeline segments within the surf zone will be excavated (if necessary), cut, and pulled offshore for recovery to the barge deck and disposal.

### 1.2 SITE CHARACTERISTICS

**Physical Characteristics.** The offshore environmental setting for the Project includes nearshore, shallow water depths out to the continental shelf offshore Santa Barbara County. The primary substrates within the offshore segments of the pipeline corridor have been characterized as fine- to medium-grained smooth sediments, with infrequent areas of mixed smooth sediment and bedrock, coarse-grained sand, gravel, cobbles (Johnson et al., 2013). The marine habitats and biota are typical of those found in similar water depths within the Southern California Bight (SCB). The intertidal and subtidal habitats within the Project Site consists primarily of sand with a mosaic of intermittent low- to medium-relief rocks and soft-bottom sediments. In addition, the Casitas pier pilings provide submerged artificial substrates in the intertidal zone.

**Vegetative Characteristics.** Surf grass beds (*Phyllospadix* sp.) are commonly found along the southern California coastal areas in rocky intertidal substrate and are known to provide cover and habitat structure for intertidal invertebrates and marine alga. Surf grass is present on the surface of intertidal rocks in the study area and previous site visits during low tide events have identified surf grasses in subtidal habitats; however, its presence may fluctuate on a seasonal basis depending on the intensity of sand deposition or wave action. Eelgrass (*Zostera* spp.) is a type of marine flowering seagrass that grows in temperate marine environments and possesses important nursery and refuge qualities that are important for juvenile fish. Further study will be required to determine if eelgrasses (*Zostera* sp.) is present in the study area. The nearest recorded eelgrass bed is present in northern Ventura Harbor, approximately 16.5 miles southeast of the study area (Sherman and DeBruyckere, 2018).

Kelp beds, which are designated Habitat Areas of Particular Concern (HAPC) and serve as important groundfish habitat, are seasonally present immediately adjacent to the pipeline corridors within the Project site (Figure 1-2). The Gail and Grace pipeline bundle and 10-inch oil pipeline partially intersects with a kelp bed is located approximately 470 feet east of the Casitas Pier. Fish that utilize these kelp beds could be present in the Project site during decommissioning activities.

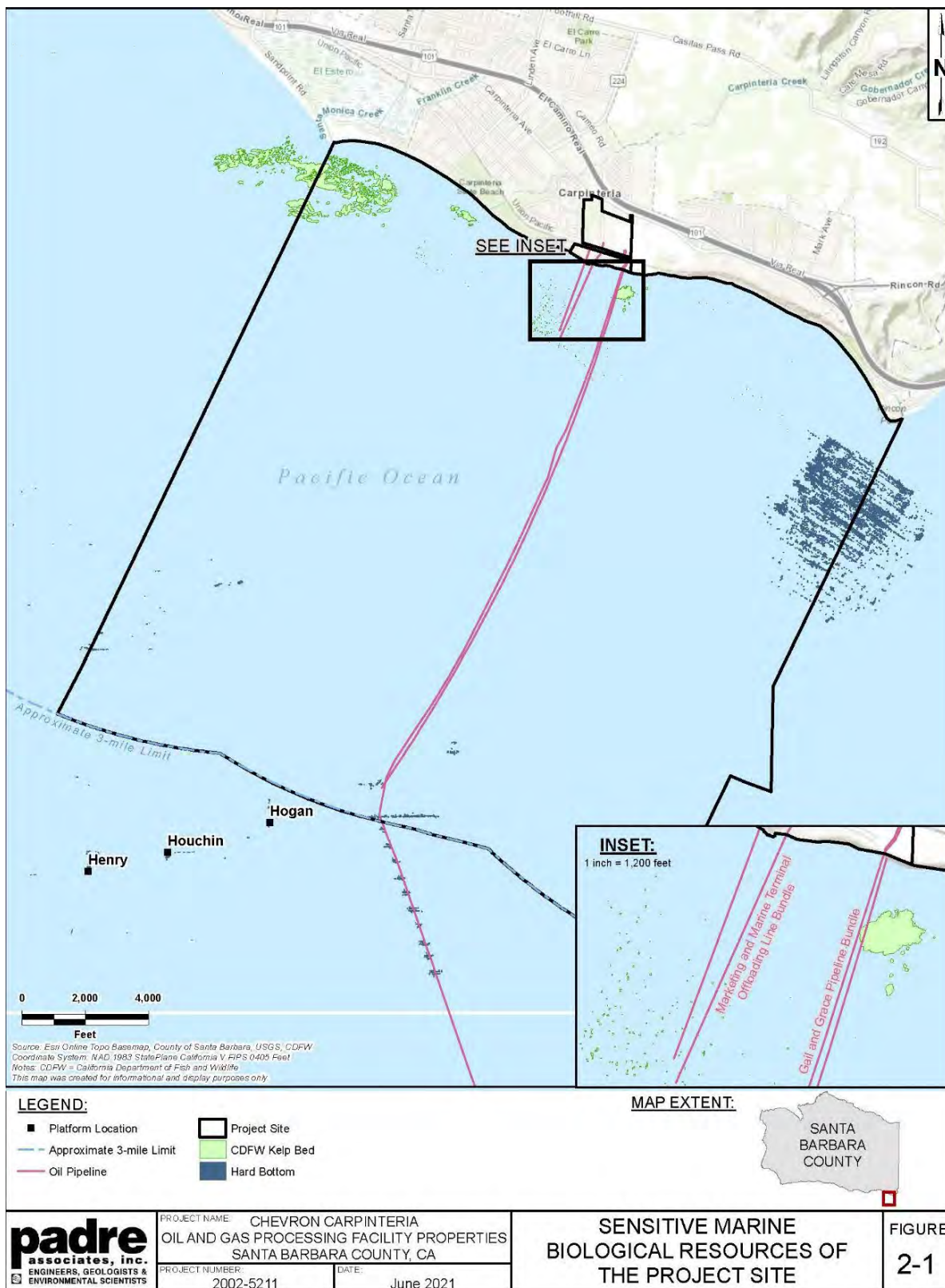
**Wildlife Characteristics.** The epifauna of the shallower sedimentary habitats typically includes several species of macro-invertebrates, including sea stars, Pacific sand dollars (*Dendraster excentricus*), and slender crabs (*Cancer gracilis*), as well as polychaete worms and mollusks. The rocky substrata tend to support a generally more diverse epibiota, dominated by mussels (*Mytilus californianus*) within the intertidal zone, as well as macrophytic algae, urchins (*Strongylocentrotus* spp.), sea stars, and cnidarians (anemones and solitary corals) in subtidal and water depths from 10 to 100 feet (approximately three to 30 meters). Epifauna of deeper waters in sedimentary habitats and those species found growing or foraging on exposed pipeline segments include plumose anemone (*Metridium senile*), bat stars (*Patiria miniate*), and rockfish (*Sebastes* sp.).

The open water habitat within the offshore Project pipeline corridors support migration and foraging habitat for fish, marine mammals, reptiles, and avifauna. Water depth between the subtidal zone and the boundary of California State waters (three nautical miles) ranges between approximately 30 to 148 feet and therefore would support species that are adapted to live at those depths. Remote Operated Vehicle (ROV) surveys have reported that the majority of the pipeline corridor is buried under soft sediments from approximately -45 to -140 feet and then intermittently exposed to the State waters limit (-148 feet).



**Figure 1-1. Project Location**





**Figure 1-2. Sensitive Marine Resources in Project Area**

## 2.0 MANAGED SPECIES OF INTEREST

The National Marine Fisheries Service (NMFS) EFH online mapper was utilized to identify which management units are located within the offshore Project area (NMFS, 2021). Species distribution and habitat information was used to develop Table 2-1 which lists the managed species that could occur within the geographical region, water depth range, and habitat types found within the Project area (McCain et al., 2019).

The Pacific Fishery Management Council (PFMC) manages economically important fish under four Fishery Management Plans: 1) Coastal Pelagics Fishery Management Plan (CPFMP); 2) Pacific Salmon Fishery Management Plan; 3) Pacific Groundfish Fishery Management Plan (PGFMP); and 4) Highly Migratory Species Fishery Management Plan (HMS FMP). A list of managed species that could be found during all or part of their life cycle within the Project area is provided in Table 2-1. At least 46 species listed under the PGFMP, seven species listed under the CPFMP, and two species under the HMS FMP frequent kelp beds, rock reefs, benthic, and open water habitats in less than 148 feet (45 meters) of water off the coast of Santa Barbara, California, and could be present during some life stages in the nearshore Project area. The pelagic species could be present for short-time periods as schooling adults whereas many of the groundfish species could be present for longer time periods as both juveniles and adults. The juveniles of many rockfish species use the shallow-water algae and kelp canopies during early development before settling over deeper water or to the bottom. Benthic rockfish juveniles could be found in Sargassum and algae beds. Cabezon, lingcod, and greenlings could be present as adults, in egg masses (nests) on substrate, and as settled juveniles in adjacent kelp beds (CDFW, 2001; Love, 1996).

**Table 2-1. Fish Species Managed Under Pacific Fishery Management Plans**

Management Plan	Common Name	Scientific Name
<b>Fin Fish Managed under CPFMP</b>	Northern anchovy	<i>Engraulis mordax</i>
	Pacific mackerel	<i>Scomber japonicus</i>
	Jack mackerel	<i>Trachurus symmetricus</i>
	Pacific sardine	<i>Sardinops sagax caerulea</i>
	Krill	<i>Thysanoessa spinifera</i>
		<i>Euphausia pacifica</i>
	Market squid	<i>Doryteuthis (Loligo) opalescens</i>
	<b>Total</b>	<b>7</b>
<b>Groundfish Managed under PGFMP</b>	<b>Flatfish</b>	
	Arrowtooth flounder	<i>Atheresthes stomias</i>
	Butter sole	<i>Isopsetta isolepis</i>
	Curlfin sole	<i>Pleuronichthys decurrens</i>
	Dover sole	<i>Microstomus pacificus</i>
	English sole	<i>Parophrys vetulus</i>
	Flathead sole	<i>Hippoglossoides elassodon</i>
	Pacific sanddab	<i>Citharichthys sordidus</i>
	Petrable sole	<i>Eopsetta jordani</i>

**Table 2-1. Fish Species Managed Under Pacific Fishery Management Plans**

Management Plan	Common Name	Scientific Name
	Rex sole	<i>Glyptocephalus zachirus</i>
	Rock sole	<i>Lepidopsetta bilineata</i>
	Sand sole	<i>Psettichthys melanostictus</i>
	Starry flounder	<i>Platichthys stellatus</i>
	<b>Rockfish and Scorpaeniform Roundfishes</b>	
	Kelp greenling	<i>Hexagrammos decagrammus</i>
	Lingcod	<i>Ophiodon elongates</i>
	Bank rockfish	<i>Sebastes rufus</i>
	Black Rockfish	<i>Sebastes melanops</i>
	Black-and-yellow rockfish	<i>Sebastes chrysomelas</i>
	Blue rockfish	<i>Sebastes mystinus</i>
	Bocaccio	<i>Sebastes paucispinis</i>
	Brown rockfish	<i>Sebastes auriculatus</i>
	Calico rockfish	<i>Sebastes dalli</i>
	California scorpionfish	<i>Scorpaena guttata</i>
	Canary rockfish	<i>Sebastes pinniger</i>
	Chilipepper	<i>Sebastes goodei</i>
	China rockfish	<i>Sebastes nebulosus</i>
	Copper rockfish	<i>Sebastes caurinus</i>
	Cabazon	<i>Scorpaenichthys marmoratus</i>
	Cowcod	<i>Sebastes levis</i>
	Darkblotched rockfish	<i>Sebastes crameri</i>
	Dusky rockfish	<i>Sebastes variabilis</i>
	Dark rockfish	<i>Sebastes ciliatus</i>
	Flag rockfish	<i>Sebastes rubrivinctus</i>
	Gopher rockfish	<i>Sebastes carnatus</i>
	Grass rockfish	<i>Sebastes rastrelliger</i>
	Greenblotched rockfish	<i>Sebastes rosenblatti</i>
	Greenspotted rockfish	<i>Sebastes chlorostictus</i>
	Greenstriped rockfish	<i>Sebastes elongatus</i>
	Harlequin rockfish	<i>Sebastes variegatus</i>
	Honeycomb rockfish	<i>Sebastes umbrosus</i>
	Kelp rockfish	<i>Sebastes atrovirens</i>
	Mexican rockfish	<i>Sebastes macdonaldi</i>
	Olive rockfish	<i>Sebastes serranoides</i>
	Pacific Ocean perch	<i>Sebastes alutus</i>
	Quillback rockfish	<i>Sebastes maliger</i>
	Rosethorn rockfish	<i>Sebastes helvomaculatus</i>
	Rosy rockfish	<i>Sebastes rosaceus</i>
	Rougheye rockfish	<i>Sebastes aleutianus</i>
	Shortracker rockfish	<i>Sebastes borealis</i>
	Shortspine thornyhead	<i>Sebastolobus alascanus</i>

**Table 2-1. Fish Species Managed Under Pacific Fishery Management Plans**

Management Plan	Common Name	Scientific Name
	Speckled rockfish	<i>Sebastes ovalis</i>
	Squarespot rockfish	<i>Sebastes hopkinsi</i>
	Starry rockfish	<i>Sebastes constellatus</i>
	Tiger rockfish	<i>Sebastes nigrocinctus</i>
	Treefish rockfish	<i>Sebastes serriceps</i>
	Vermilion rockfish	<i>Sebastes miniatus</i>
	Widow rockfish	<i>Sebastes entomelas</i>
	Yelloweye rockfish	<i>Sebastes ruberrimus</i>
	Yellowtail rockfish	<i>Sebastes flavidus</i>
	<b>Roundfish</b>	
	Pacific cod	<i>Gadus macrocephalus</i>
	<b>Sharks and Rays</b>	
	Leopard shark	<i>Triakis semifasciata</i>
	Longnose skate	<i>Raja rhina</i>
	<b>Total</b>	<b>46</b>
<b>Migratory Fish Managed under HMS FMP</b>	Common Thresher Shark	<i>Alopias vulpinus</i>
	Dorado	<i>Coryphaena hippurus</i>
	<b>Total</b>	<b>2</b>

### 3.0 IMPACT ASSESSMENT

The rocky substrate within the immediate Project area is limited and, when present, appears to be routinely subjected to substantial sand scour and supports only a limited algal and invertebrate community. In the case that rocky substrate occurs in the pipeline decommissioning area(s), potential damage to that substrate from removing pipelines or from diver activities uncovering buried pipelines could result in short-term impacts to EFH. Further, kelp, eelgrass, and algae-covered rocky substrates are included in the group of Habitats of Particular Concern (HAPC) called “shallow water living substrates” and are considered important for some managed groundfish species (Dobrzynski and Johnson, 2001). Damage to that habitat could be considered significant to essential habitat for some of the nearshore rockfish listed in Table 2-1.

**Habitat Areas of Particular Concern.** Based on the proposed activities and the assessment of existing habitats, only the adjacent kelp beds adjacent to the Project area represent essential habitat and potential HAPC for managed species. By avoiding these features (see Section 4.0, Mitigation), potential impacts related to removal of the pipelines and associated diver activities would not result in a significant impact to the EFH of any of the managed species that could occur within the area. Specifically, anchoring of any work vessel will only occur in sedimentary habitats and will be situated so that anchor lines will not impact kelp or algae-covered rocks. In small sections where pipeline bundles intersect with kelp beds, removal operations will avoid existing kelp beds. To avoid impacts to kelp and hardbottom, the pipeline segment will be lifted or floated to the surface further offshore and outside of the kelp canopy to ensure that no interaction would result or damage to hardbottom will occur. There are no HAPCs designated for highly migratory or coastal pelagic species; and there will be no permanent impacts to EFH for those species. Offshore decommissioning activities will be limited to narrow corridors of primarily sedimentary seafloor within which the pipelines will be removed. The sedimentary bottom will be disturbed only during removal activities and Project vessels will not anchor in deep-water hard bottom habitat or within areas of sensitive resources.

**Turbidity/Suspended Sediments.** Potential underwater activities associated with decommissioning of structures includes anchoring, underwater cutting, excavating and securing the pipelines to the lifting equipment and recovering pipelines to an offshore barge. Resuspended sandy sediments are expected to settle quickly to the seafloor after disturbance. Little, if any, long-term water column turbidity is expected.

The sandy and exposed bedrock habitat that characterizes most of the seafloor within the area immediately adjacent to the pipelines and within the proposed anchor locations is not unique and is common throughout the region. Impacts to that habitat are expected to be short-term and insignificant to the EFH of managed species that may utilize it.



## **4.0 MITIGATION**

An anchor pre-plot will be developed specific to the Project site and Project activities, will be submitted with the Contractor Project Work and Safety Plan (PWSP) for review and approval. The anchor pre-plot will identify designated anchoring locations that avoid hard-bottom habitat. In addition, all anchors will be lowered vertically to the seafloor in a controlled manner. Each anchor will be recovered using a crown line to pull it vertically through the water column. Those methods will reduce sediment resuspension, seafloor alteration, and potential damage to rocky substrate. In addition, pre-decommissioning nearshore marine biological surveys will be conducted to identify any sensitive sea grass beds or rocky reef habitats that intersect with the pipeline corridors. Avoidance of these areas will reduce or eliminate impacts sensitive habitats.

The depression in the sedimentary seafloor that is expected to result from removal of the pipelines offshore or toward the shore is expected to quickly fill with surrounding sediments driven by near-bottom currents and by wave-generated currents. The Project area is an exposed coastline and is subject to storm waves. As mitigated, only short-term effects (sediment resuspension) are expected. No long-term impacts to the essential fish habitat, which consists of sedimentary and rocky habitats and the water column, are expected to result from the proposed action as mitigated.

## 5.0 REFERENCES

- California Department of Fish and Game (CDFG). 2001. California's Living Marine Resources: A Status Report, eds. Leet, W., Dewees, C.M., Klingbeil, R., Larson, E.J. December 2001.
- McCain, B., Miller, S.D., and Wakefield II, W.W. 2019. Life Histories, Geographical Distribution, and Habitat Associations of Pacific Coast Groundfish species. Pacific Coast Groundfish Fishery Management Plan for the California, Oregon, and Washington groundfish fishery, Appendix B, part 2. Pacific Fishery Management Council, June 2019.
- Dobrzynski, T. and Johnson, K. 2001. Regional Council Approaches to the Identification and Protection of Habitat Areas of Particular Concern. White Paper for NOAA/National Marine Fisheries Service, Office of Habitat Conservation, Silver Spring, Maryland. May 2001. 17 pp.
- Love, M. S. 1996. Probably more than you want to know about the fishes of the Pacific coast. Really Big Press, Santa Barbara, California. 215 p.
- Miller, D. J. and Lea, R. N. 1972. Guide to the Coastal Marine Fishes of California. California Department of Fish and Game Fish Bulletin No. 157.
- National Marine Fisheries Service (NMFS). 2019. Essential Fish Habitat Mapper v3.0. website: <http://www.habitat.noaa.gov/protection/efh/efhmapper/index.html>. Accessed May 7, 2019.
- National Oceanic and Atmospheric Association (NOAA). 1998. A Primer for Federal Agencies. Essential Fish Habitat: New Marine Fish Habitat Conservation Mandate for Federal Agencies. EHF Federal Primer. November 1998.
- Padre Associates, Inc. (Padre). 2018. Pre-Construction Marine Biological Dive Survey Letter-Report for the California Resources Corporation Grubb Lease Decommissioning of Intake/Outfall Structure. November 2018. pp. 19
- Sherman, K., and L.A. DeBruyckere. 2018. Eelgrass habitats on the U.S. West Coast. State of the Knowledge of Eelgrass Ecosystem Services and Eelgrass Extent. A publication prepared by the Pacific Marine and Estuarine Fish Habitat Partnership for The Nature Conservancy. 67pp.

## **Appendix C-9**

# Supplemental Marine Surveys and Habitat Characterization Technical Report

December 16, 2022  
Project No. 2002-5211

Chevron West Coast Decommissioning Program  
3916 State Street, Suite 200  
Santa Barbara, California 93105

Attention: Ms. Becky Trujillo, Regulatory Affairs Manager

Subject: Supplemental Marine Surveys and Habitat Characterization Technical Letter-Report  
for Carpinteria Oil and Gas Offshore Pipelines, Carpinteria, Santa Barbara County

Dear Ms. Trujillo:

Padre Associates, Inc. (Padre) is pleased to provide this letter-report on behalf of Chevron USA (Chevron) in support of the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project (Project). The letter-report was prepared following review of offshore surveys that provided additional information of the existing conditions in the Project pipeline corridors. The objective of this letter-report is to supplement the habitat characterization included in the Project's Marine Biological Resources Study (Padre, 2021) and provide additional analysis regarding potential impacts to marine habitats during the proposed Project as presented in the California Environmental Quality Act (CEQA) Initial Study.

The proposed Project includes demolition of surface and subsurface facilities and remediation of any subsurface soil and groundwater contamination at the Carpinteria Onshore Oil and Gas Processing Facility, as well as subsea pipeline removal from the shore out to State Waters (three nautical miles) (Project Site). The Project will also include the removal of pipelines from the bluff and beach areas adjacent to the Casitas Pier and west of the Carpinteria Harbor Seal Rookery. Due to the marine nature of this letter-report the following section details the background information needed to include a complete discussion of the offshore Project site and Project activities that have the potential to impact the marine environment.

## **BACKGROUND**

The offshore Project site is located between the onshore Project Site and the State Water boundary within the Santa Barbara Channel (Attachment 1 – Figures, Offshore Project Site and Study Area). Two operational areas are present within the beach crossing and offshore Project site: The Marketing and Marine Terminal Offloading Lines Bundle and the Gail and Grace Pipeline Bundle/10-inch oil pipeline area.

As part of the Project's Coastal Development Permit Application, a Marine Biological Resources Study was finalized in June 2021; however, subsequent geophysical and remote operated vehicle (ROV) surveys were conducted of the Project's pipeline corridors in the later part of June and August 2021, respectively. The geophysical surveys were conducted along the Marketing and Marine Terminal Offloading Line Bundle as well as partially along the Gail and Grace Bundle, while the ROV surveys included only the Gail and Grace Bundled pipelines. In an effort to provide a comprehensive characterization of the marine habitats associated with the

Project site, Padre marine biologists reviewed the offshore survey reports, videos and mapping, with a focus of characterizing the biological marine resources present and have summarized the methods and results in following sections.

## METHODS

Chevron contracted Fugro USA Marine Incorporated (FUSAMI) and Aqueos Corporation (Aqueos) to perform offshore surveys of the Project pipeline corridors. FUSAMI completed geophysical surveys from June 23 through 27, 2021 along the Marketing and Marine Terminal Offloading Line Bundle, and along the inshore portion of the Gail and Grace Bundle. Geophysical surveys equipment included magnetometer, multibeam echosounder, sub-bottom profiler, and side scan sonar which was deployed from the *M/V Julie Ann*. Aqueos completed ROV surveys from August 4 through 14, 2021 of the Gail and Grace Bundled pipelines starting from the State Waters boundary. Surveys were conducted from the *M/V Clean Ocean* using an ROV camera to record survey video and a side scan sonar to track pipeline location on the seafloor.

The surveys' combined objectives were to complete required external inspections and to identify any the location of exposed or spanning pipeline, debris, and hard bottom habitats that may occur along each pipeline bundle; however, the FUSAMI survey was limited to geophysical data collection, while the Aqueos survey was only a visual survey.

## RESULTS

The surveys resulted in the mapping provided in Attachment 1 as well as approximately nine hours of video taken of the Gail and Grace Bundled Pipelines in State Waters. Both surveys found that the pipelines in their respective survey areas were primarily buried under sand sediments. In areas where the pipelines were exposed, it was exposed for short distances and was mostly devoid of marine life. The vessel size and equipment dictated the water depths that were included in each survey. Table 1 summarizes the depth ranges that each survey covered within State Waters.

**Table 1. 2021 Offshore Pipeline Surveys in State Waters**

Company and Survey Type	Pipeline Bundle	Depth Range (feet)
Aqueos ROV Survey	Gail and Grace Bundle	50 to 145
FUSAMI Geophysical Survey	Gail and Grace Bundle	28 to 74
	Marketing and Marine Terminal Offloading Line Bundle	18 to 61

**Aqueos ROV Survey.** In water depths of approximately -50 to -115 feet, the Aqueos ROV surveys recorded the Grace and Gail Bundle alignment continuously buried under sand and silt sediments. As the survey moved offshore, the pipelines continued to be primarily buried but have five areas of short exposure until they cross the Hogan to Shore pipeline bundle in -145 feet of water near the State Waters boundary line. Low visibility made it difficult to identify any species to taxa; however, the Gail and Grace Bundle alignment was mostly devoid of marine life aside from small schooling fish occasionally observed swimming above the pipeline alignment. Minor debris was noted, but nothing that compromised the integrity of the pipelines.



**FUSAMI Geophysical Surveys.** Multibeam imagery from the FUSAMI surveys found the seafloor gradually sloping from water depths of -13 feet in the nearshore region to -74 feet at the edge of the survey area. Sub-bottom profiler depth of burial measurements found that, on average, the Gail and Grace Bundled pipelines are buried between one to three feet deep inshore of 74 feet and the Marketing and Marine Terminal Offloading Line bundle is also buried one to three feet inshore of 60 feet. There were no refractions of rock reef or marine vegetation identified within the pipeline corridors on the multibeam or side scan sonar data. The side scan sonar data identified 17 individual targets within the Marketing and Marine Terminal Offload Line and Gail and Grace Bundles. Sixteen of those targets were identified as “unknown targets” ranging in length from 3.0 to 32.1 feet with an unknown linear target along the 20-inch loading pipeline that potentially shows the only area of pipeline exposure. The potential pipeline exposure area is 31.8 feet long and 2.6 feet wide. There is no video footage of this area of exposed pipeline, but neither multibeam or side scan sonar indicate any presence of marine vegetation or other hard substrates.

## CONCLUSION

Results from the both the ROV and geophysical surveys showed that the Gail and Grace Bundle and Marketing and Marine Terminal Offloading Line Bundle were primarily buried in sand and silt sediments along their alignment within State Waters, with infrequent and short lengths of exposure. There were no observations of hard substrates, kelp, or surf grass attached to the pipelines or within the pipeline corridors during either survey. Given the pipelines’ depth of burial in sand, it is unlikely that suitable habitat would be present for sensitive marine species; therefore, direct impacts are not expected to sensitive marine resources within the survey areas and depths presented above.

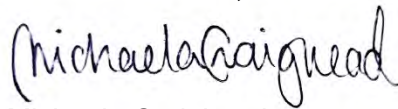
However, shallow water depths precluded surveys from encroaching into water depths less than 18 feet along the Marketing and Marine Terminal Bundle and 28 feet along the Gail and Grace Bundle. Past visual surveys of the beach pipeline crossing areas have recorded rock outcroppings along the shoreline; therefore, assuming the bedrock remains at a similar depth in the un-surveyed area, it is likely that intertidal and nearshore habitats may consist of mixed sand and rock outcropping habitat in the surf zone as well (Attachment 2 – Site Photographs); however, to what extent these habitats overlap with the Project pipeline corridors remains undetermined.

In mixed sand and rock marine habitats, wave exposure, sediment grain size, and water depth are the main physical factors that influence the composition of intertidal and subtidal benthic communities. In addition, seasonal sand deposits and retractions create dynamic substrates that preclude the recruitment and establishment of marine vegetation and reef forming species that create rare rock reef and Essential Fish Habitats (i.e., kelp beds, surf grasses, eelgrass, turf algae). The deposition and retraction of sand on pipelines further offshore would also explain while even in areas of exposure little to no marine growth is present on the pipelines. Due to these physical factors, soft substrate habitats within the intertidal and subtidal zone typically lack vegetation and have a lower diversity and abundance of species than those areas with perennially exposed hard substrate. The lack of marine vegetation reduces the habitat structure available to recruit common reef invertebrates and fish, as well as protected marine species such as abalone; therefore, direct impacts to established sensitive habitats and protected species are unlikely to occur in the Project site.

In accordance with the Project's Marine Biological Resources Study's assessment and CEQA Initial Study, MM BIO-6: Essential Fish Habitat Avoidance, would still require pre-decommissioning marine biological dive surveys to be conducted of the nearshore pipeline corridors to identify and avoid any sensitive habitats that may have yet to be identified inshore of the ROV and geophysical surveys detailed in this letter report. In addition, although unlikely to occur, pre-decommissioning eelgrass surveys would also be conducted as part of MM BIO-6 in accordance with the California Eelgrass Mitigation Policy and in consultation with the National Marine Fisheries Service.

Sincerely,

Padre Associates, Inc.



Michaela Craighead  
Project Marine Biologist

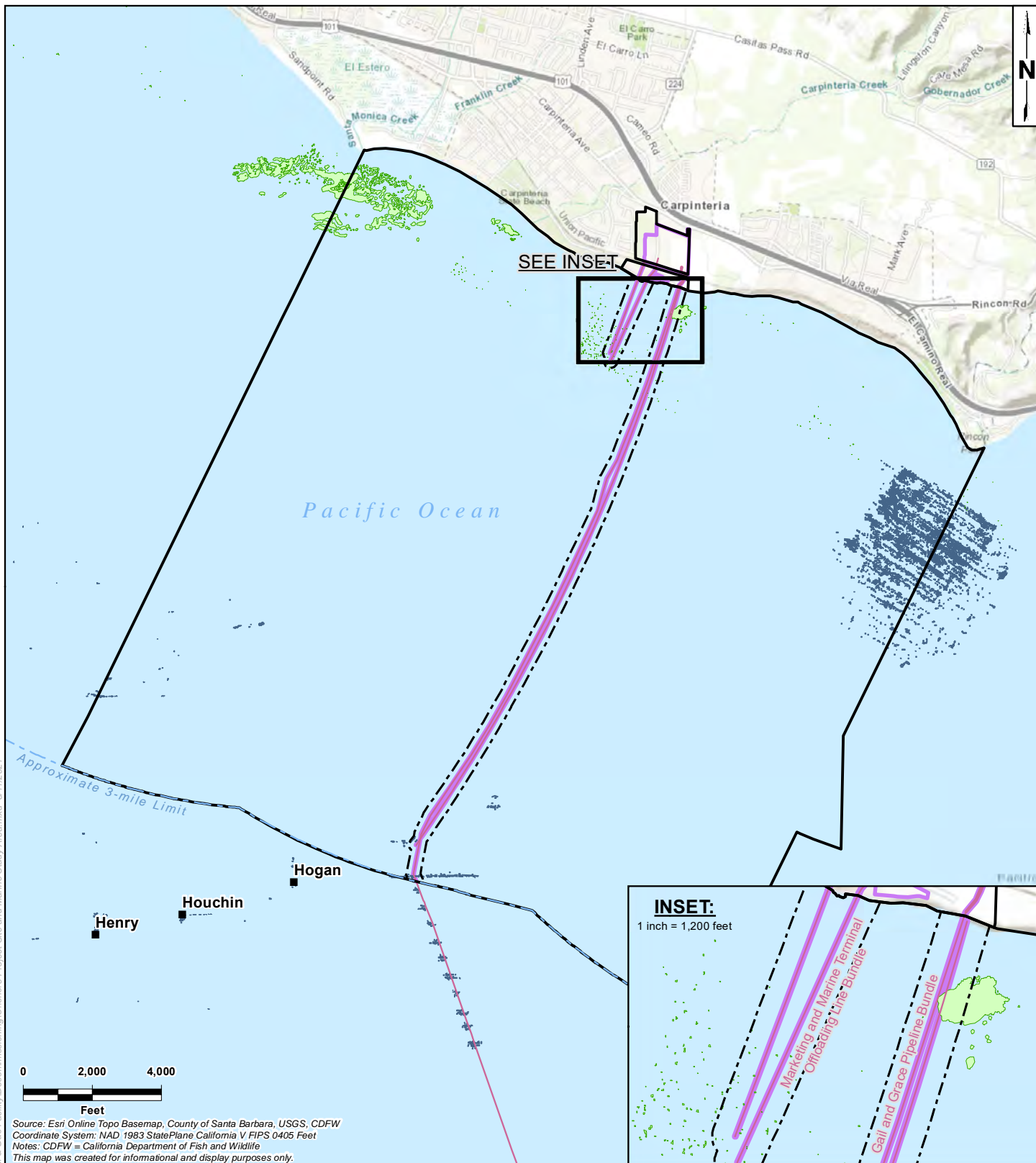
Attachment: 1 Figures  
2 Site Photographs

c:

## **ATTACHMENT 1**

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### **FIGURES**



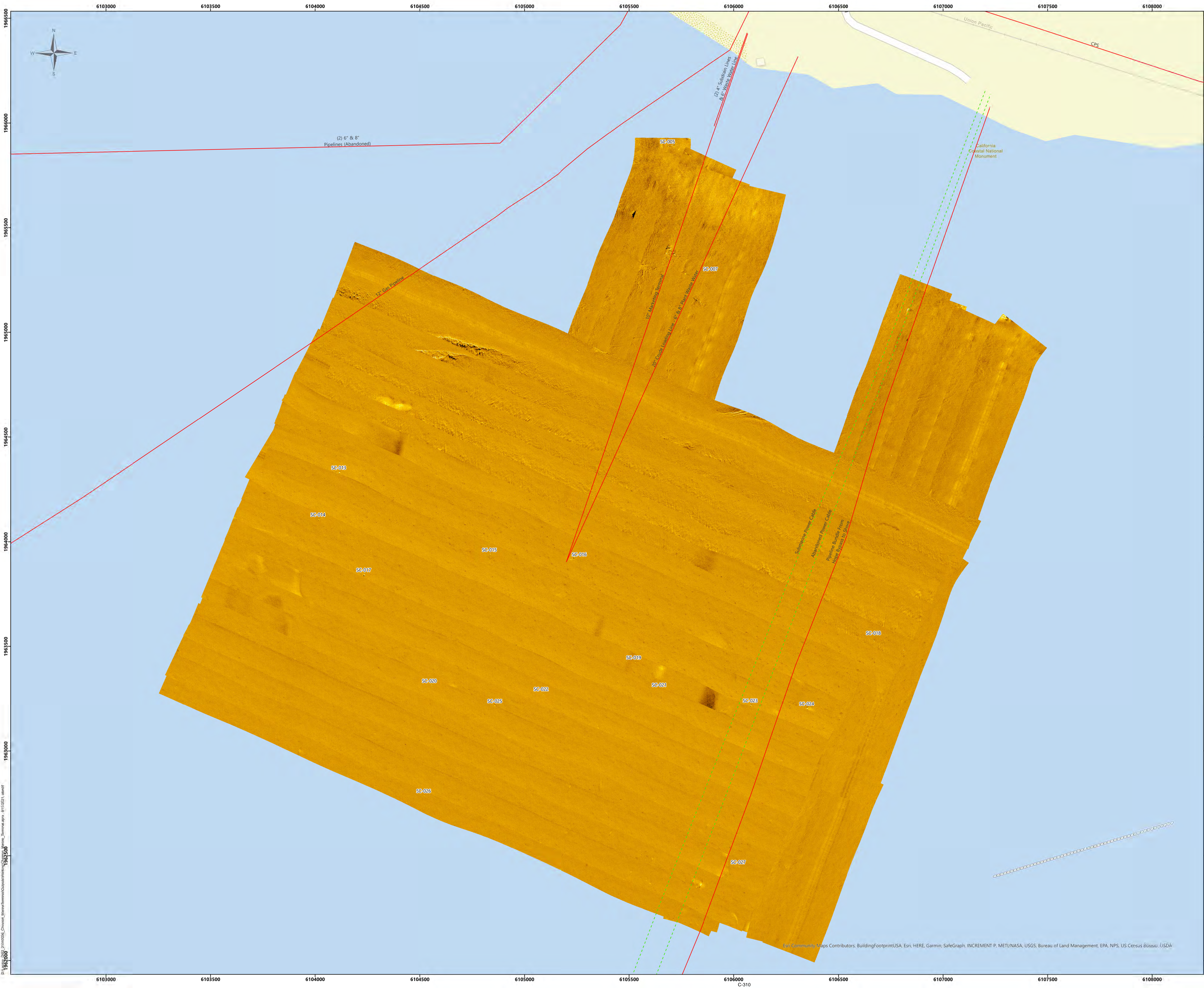
#### LEGEND:

- Platform Location
- Project Site
- Project Disturbance Area
- Approximate 3-mile Limit
- CDFW Kelp Bed
- Study Area (400 ft)
- Oil Pipeline
- Hard Bottom

#### MAP EXTENT:







Legend

- Current Map Extent (Key Map)
- Side Scan Sonar Contact

Infrastructure

- Pipeline
- Inferred Power Cable
- Mooring

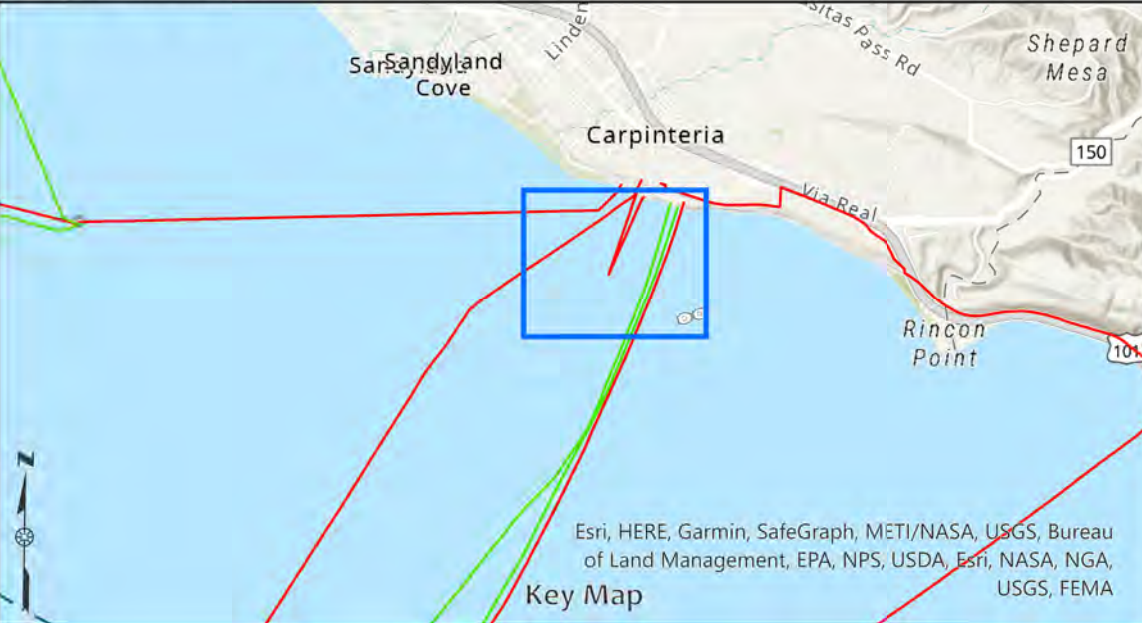
NOTES:

- Bathymetric contours are in feet and referenced to MLLW based on tide observations for Santa Barbara, CA (Tide station 9411340).
- Survey equipment utilized during data acquisition included the following systems:
  - Fugro G4+ Signal Primary Positioning Signal
  - Applanix POS MV Inertial Navigation System Oceanmaster
  - Norbit iWBMSH STX Multibeam System
  - Edgetech 4125 Digital Dual Frequency Side Scan Sonar
  - Geometrics G-882 Magnetometer Towfish
  - Edgetech 3200 Sub-Bottom Profiler with SB-216S Towfish
- Survey data were collected on June 23 - 27, 2021 aboard the M/V Julie Ann.
- Existing features including as-built pipelines, cable locations and seafloor features are compiled from as-built and historical data, as well as seamless Fugro ENC database and NOAA charts.

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GEODETTIC INFORMATION

DATUM: NAD83  
PROJECTION: California Coordinate System (CCS)  
(Lambert Conformal Conic Projection)  
  
ZONE: Zone 5  
UNITS: U.S. Survey Feet  
  
VERTICAL DATUM: MLLW



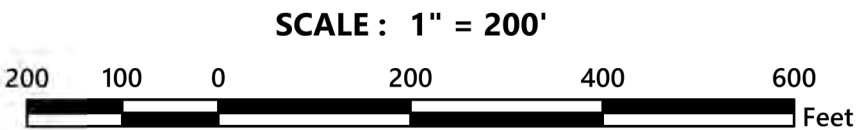
**FUGRO** **FUGRO USA MARINE**  
4820 McGrath St., Suite 100  
Ventura, California 93003  
Tel: (805) 650-7000  
www.fugro.com



CARPINTERIA MARINE TERMINAL  
GEOPHYSICAL SURVEY

SIDE SCAN SONAR MOSAIC

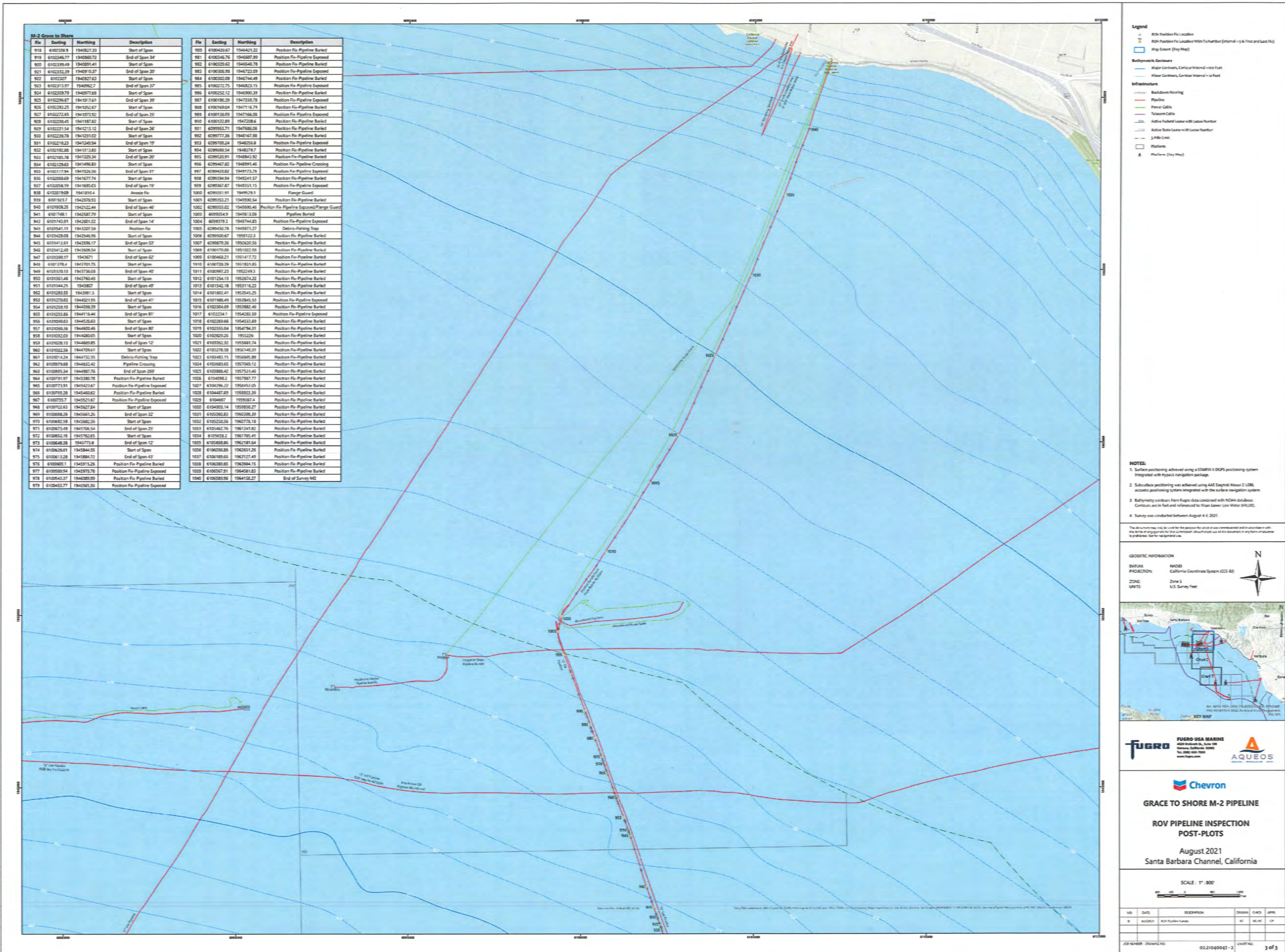
OFFSHORE CARPINTERIA, CA  
JUNE 2021



REV NO:	DATE:	DESCRIPTION:	DRAWN:	CHKD:	APPR:
0	JUNE2021	MBES, Side Scan Sonar, Mag and Sub-Bottom Profiler Survey	AT	DE/KC	CP

JOB NUMBER - DRAWING NUMBER: 02.21040036 - 1 CHART NO: 2 of 2





M-2 Grace to Shore		
Station	Northings	Description
918	6102379.9	Start of Span
919	6102344.77	End of Span 34
920	6102339.49	Start of Span
921	6102332.39	End of Span 20
922	6102327	Start of Span
923	6102313.97	End of Span 37
924	6102297.9	Start of Span
925	6102294.39	End of Span 39
926	6102283.25	Start of Span
927	6102272.85	End of Span 25
928	6102268.45	Start of Span
929	6102251.54	End of Span 26
930	6102238.76	Start of Span
931	6102216.33	End of Span 19
932	6102192.86	Start of Span
933	6102185.26	End of Span 20
934	6102129.63	Start of Span
935	6102117.94	End of Span 31
936	6102098.69	Start of Span
937	6102058.79	End of Span 19
938	6102019.69	Anchor Fix
939	6101912.7	Start of Span
940	6101908.26	End of Span 40
941	6101748.1	Start of Span
942	6101743.91	End of Span 14
943	6101641.31	Position Fix
944	6101428.08	Start of Span
945	6101412.81	End of Span 53
946	6101412.49	Start of Span
947	6101398.17	End of Span 62
948	6101378.4	Start of Span
949	6101350.13	End of Span 40
950	6101336.46	Start of Span
951	6101344.25	End of Span 49
952	6101283.35	Start of Span
953	6101270.85	End of Span 41
954	6101258.19	Start of Span
955	6101233.86	End of Span 87
956	6101208.83	Start of Span
957	6101208.36	End of Span 90
958	6101202.03	Start of Span
959	6101208.13	End of Span 12
960	6101202.36	Start of Span
961	6101172.4	Detention-Floating Trap
962	6101179.68	Pipeline Crossing
963	6101095.34	End of Span 200
964	6101071.97	Position Fix-Pipeline Buried
965	6101073.91	Position Fix-Pipeline Exposed
966	6101073.38	Position Fix-Pipeline Buried
967	6101073.7	Position Fix-Pipeline Exposed
968	6101072.43	Start of Span
969	6101068.26	End of Span 12
970	6101062.08	Start of Span
971	6101067.49	End of Span 25
972	6101062.19	Start of Span
973	6101064.38	End of Span 12
974	6101062.81	Start of Span
975	6101061.38	End of Span 42
976	6101060.1	Position Fix-Pipeline Buried
977	6101060.94	Position Fix-Pipeline Exposed
978	6101054.37	Position Fix-Pipeline Buried
979	6101043.77	Position Fix-Pipeline Exposed

Sta	Eastings	Northings	Description
980	6100420.67	194621.22	Position Fix-Pipeline Buried
981	6100346.76	194607.99	Position Fix-Pipeline Exposed
982	6100329.62	194604.79	Position Fix-Pipeline Buried
983	6100305.98	194573.09	Position Fix-Pipeline Exposed
984	6100302.08	194574.49	Position Fix-Pipeline Buried
985	6100272.75	194682.15	Position Fix-Pipeline Exposed
986	6100252.12	194690.39	Position Fix-Pipeline Buried
987	6100186.39	194739.79	Position Fix-Pipeline Exposed
988	6100169.04	194716.79	Position Fix-Pipeline Buried
989	6100138.09	194766.06	Position Fix-Pipeline Exposed
990	6100122.89	1947208.6	Position Fix-Pipeline Buried
991	6099953.71	194786.06	Position Fix-Pipeline Buried
992	6099777.36	194767.88	Position Fix-Pipeline Buried
993	6099709.24	194805.8	Position Fix-Pipeline Exposed
994	6099699.54	194829.7	Position Fix-Pipeline Buried
995	6099520.91	194843.92	Position Fix-Pipeline Buried
996	6099467.82	194891.46	Position Fix-Pipeline Crossing
997	6099420.62	1949173.76	Position Fix-Pipeline Exposed
998	6099394.94	194941.57	Position Fix-Pipeline Buried
999	6099367.87	194931.15	Position Fix-Pipeline Exposed
1000	6099351.91	194929.1	Range Guard
1001	6099332.21	194938.54	Position Fix-Pipeline Buried
1002	6099332.62	194938.46	Position Fix-Pipeline Exposed/Range Guard
1003	6099354.9	194913.06	Pipeline Buried
1004	6099319.3	1949144.85	Position Fix-Pipeline Exposed
1005	6099450.78	1949173.27	Detention-Floating Trap
1006	6099500.67	1949122.3	Position Fix-Pipeline Buried
1007	6099679.36	194920.56	Position Fix-Pipeline Buried
1008	6100170.86	194932.09	Position Fix-Pipeline Buried
1009	6100488.21	195117.75	Position Fix-Pipeline Buried
1010	6100726.36	195183.85	Position Fix-Pipeline Buried
1011	6100897.23	1952349.3	Position Fix-Pipeline Buried
1012	6101254.13	195274.23	Position Fix-Pipeline Buried
1013	6101542.18	1952116.23	Position Fix-Pipeline Buried
1014	6101852.41	195245.25	Position Fix-Pipeline Buried
1015	6101988.49	195245.53	Position Fix-Pipeline Exposed
1016	6102054.69	195188.46	Position Fix-Pipeline Buried
1017	6102234.1	1954281.59	Position Fix-Pipeline Exposed
1018	6102269.66	195433.69	Position Fix-Pipeline Buried
1019	6102355.04	195474.31	Position Fix-Pipeline Buried
1020	6102620.25	1955226	Position Fix-Pipeline Buried
1021	6102952.32	195581.74	Position Fix-Pipeline Buried
1022	6103276.58	1956140.31	Position Fix-Pipeline Buried
1023	6103481.15	195688.89	Position Fix-Pipeline Buried
1024	6103883.65	1957081.52	Position Fix-Pipeline Buried
1025	6103888.42	195731.46	Position Fix-Pipeline Buried
1026	6104098.2	195787.77	Position Fix-Pipeline Buried
1027	6104296.22	195841.05	Position Fix-Pipeline Buried
1028	6104487.89	195823.36	Position Fix-Pipeline Buried
1029	6104687	195937.4	Position Fix-Pipeline Buried
1030	6104923.14	195982.27	Position Fix-Pipeline Buried
1031	6105282.83	196028.39	Position Fix-Pipeline Buried
1032	6105254.56	1960776.18	Position Fix-Pipeline Buried
1033	6105482.76	1961241.82	Position Fix-Pipeline Buried
1034	6105658.2	1961781.43	Position Fix-Pipeline Buried
1035	6105858.86	1962181.64	Position Fix-Pipeline Buried
1036	6106296.85	196251.25	Position Fix-Pipeline Buried
1037	6106189.05	196212.49	Position Fix-Pipeline Buried
1038	6106380.65	196284.15	Position Fix-Pipeline Buried
1039	6106567.91	1964081.83	Position Fix-Pipeline Buried
1040	6106580.56	1964138.27	End of Survey M2

**Legend**

- 82m Pipeline Fix Location
- 82m Pipeline Fix Location With Fix Number (Interval = 5 ft First and Last Fix)
- Along Survey (Key Map)

**Bathymetric Contours**

- Water Contours, Contour Interval = 100 Feet
- Water Contours, Contour Interval = 10 Feet

**Infrastructure**

- Buildings/Flooring
- Pipeline
- Power Cable
- Telecom Cable
- Active Pipeline Line with Line Number
- Active Pipeline Line with Line Number
- 3-Mile Line
- Platons
- Platons (Key Map)

- NOTES:**
1. Surface positioning achieved using a STARPH 1 DGPS positioning system integrated with Hipsack navigation package.
  2. Subsurface positioning was achieved using AAE Echosound NMEA 2 USB acoustic positioning system integrated with the surface navigation system.
  3. Bathymetry contours from Fugro data combined with NOAA database. Contours are in feet and referenced to Mean Lower Low Water (MLLW).
  4. Survey was conducted between August 4-4, 2021.
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**GEODETIC INFORMATION**

**DATA:** NAD83  
**PROJECTION:** California Coordinate System (CCS-4B)  
**ZONE:** Zone 5  
**UNITS:** U.S. Survey Feet

FUGRO USA MARINE  
4029 Redwood Dr., Suite 100  
Beverly Hills, California 90210  
Tel: (310) 444-7888  
www.fugro.com

AQUEOS  
MARINE SURVEILLANCE

**GRACE TO SHORE M-2 PIPELINE**

**ROV PIPELINE INSPECTION**

**POST-PLOTS**

August 2021

Santa Barbara Channel, California

SCALE: 1" = 800'

NO.	DATE	REVISION	BY	CHKD	APPD
1	AUGUST	ROV Pipeline Survey		ST	SC/ML

JOB NUMBER: DRAWING NO. 02.21040042-2

CHART NO. 3 of 3



## **ATTACHMENT 2**

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### **SITE PHOTOGRAPHS**



Photo 1. West side of Casitas Pier and Marketing and Marine Terminal pipeline bundle area (buried). Date: April 20, 2021, aspect east.



Photo 2. East side of Casitas Pier with Gail and Grace pipeline bundle (buried) and exposed concrete armament. Date: April 20, 2021, aspect west.





Photo 3. Overview of typical intertidal habitat dominated by mussels (*Mytilus* sp.) within original Marine Biological Resources Study area. Marketing and Marine Terminal Offloading Line Bundle out of frame (buried) to the west of the rock outcroppings. Date: April 20, 2021, aspect south.



Photo 4. Imagery from 2021 Aqueos ROV survey. Debris crab trap noted adjacent exposed pipeline near State Waters boundary.



Photo 5. Imagery from 2021 Aqueos ROV survey. Exposed pipeline with minimal marine growth.

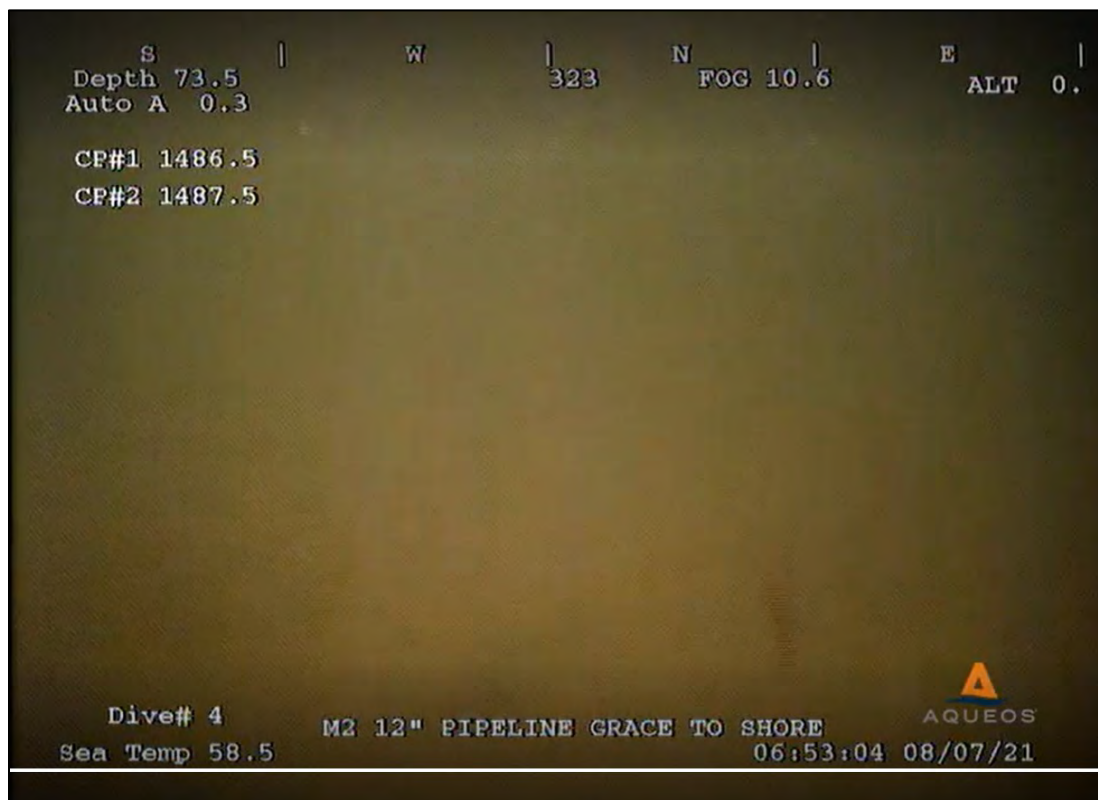


Photo 6. ROV imagery from 2021 Aqueos survey. Sand/mud bottom surrounding the area of buried pipeline at 73.5 feet.



## **Appendix D**

### **Notice of Preparation and Initial Study Supporting Information**

## **Appendix D – Notice of Preparation and Initial Study Supporting Information**

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## NOTICE OF PREPARATION

TO: State Clearinghouse  
Governor's Office of Planning and Research  
1400 Tenth Street  
Sacramento, CA 95812

FROM: Steve Goggia  
City of Carpinteria  
5775 Carpinteria Ave.  
Carpinteria, CA 93013

**SUBJECT:** Notice of Preparation of a Draft Environmental Impact Report

**PROJECT NAME:** Decommissioning and Remediation of the Chevron Carpinteria Oil and Gas Processing Facility.

**PROJECT LOCATION:** 5675 and 5663 Carpinteria Avenue, Carpinteria, CA

**PROJECT CASE #:** 2128

**PROJECT APPLICANT:** Chevron

The City of Carpinteria will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the Project identified above and all interested agencies, organizations and individuals are invited by the City to comment on the scope and content of the EIR. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed Project. The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of impacted soils at the onshore Carpinteria Oil and Gas Processing Facility. Remediation is intended to achieve the most stringent clean up levels as determined by the Santa Barbara County Public Health Department, Environmental Health Services Department (SBCEHS), Regional Water Quality Control Board (RWQCB) and U.S. Environmental Protection Agency (USEPA), while preserving existing site resources, including mature trees and bluffs, and while respecting site constraints including buffer zones adjacent to the railroad right-of-way. Tier 1 Environmental Screening Levels for residential uses (or equally protective contaminant-specific, agency-approved levels) provide the standard for on-site soil remediation, consistent with Chevron's clean up objectives.

The Project description, location and the potential environmental effects are contained in the attached Initial Study.

For the convenience of property owners and residents in the Project area, comments can be provided via email as detailed below. The Scoping comments should be limited to understanding the proposed Project and associated environmental concerns, including potential mitigation measures and possible alternatives to the Project. The attached Initial Study will be used as a starting point for discussion within the Draft EIR, but other environmental concerns may be raised by the public.

For current Project information, the following page has been established on the City's website:  
<https://carpinteriaca.gov/city-hall/community-development/oil-gas-information/oil-processing-facility-decommissioning/>

Due to the time limits mandated by State law, your response must be received at the earliest possible date, but not later than 30 days after receipt of this notice.

Please send your response to Steve Goggia, Community Development Director, at the address shown above or email to the email address below.



Date: August 1, 2022

Planner: Steve Goggia, [steveg@carpinteriaca.gov](mailto:steveg@carpinteriaca.gov)

Department: Community Development

Telephone: (805) 755-4414

cc: Clerk of the Board (please post for 30 days)

Encl: Initial Study



**Decommissioning and Remediation  
Of the Chevron Carpinteria  
Oil and Gas Processing Facility  
Project #2128**

**Initial Study**

**July 2022**

**Prepared by:**

City of Carpinteria  
5775 Carpinteria Ave.  
Carpinteria, CA 93013

And

MRS Environmental  
1306 Santa Barbara St  
Santa Barbara, CA 93101

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## 1.0 INTRODUCTION

### 1.1 Project Overview

The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of impacted soils at the onshore Carpinteria Oil and Gas Processing Facility. Remediation is intended to achieve the most stringent clean up levels as determined by the Santa Barbara County Public Health Department, Environmental Health Services Department (SBCEHS), Regional Water Quality Control Board (RWQCB) and U.S. Environmental Protection Agency (USEPA), while preserving existing site resources, including mature trees and bluffs, and while respecting site constraints including buffer zones adjacent to the railroad right-of-way. Tier 1 Environmental Screening Levels for residential uses (or equally protective contaminant-specific, agency-approved levels) provide the standard for on-site soil remediation, consistent with Chevron's clean up objectives. Although relevant agencies with jurisdiction will establish required clean up levels, by assuming the most stringent clean up level, soil excavation and truck trip estimates are higher. This assumption affects the reasonably foreseeable scope of environmental impacts because the most stringent clean up levels would require more intensive remediation activities (e.g., truck trips, site activities). The most stringent clean up levels would also result in greater flexibility for development on the site meeting the most rigorous standards (e.g., unrestricted land use). It should be noted that cleanup levels do not include removal of the existing legacy wells on the site, nor the potential contamination associated with those wells.

The Project is subject to analysis pursuant to the California Environmental Quality Act (CEQA). In accordance with CEQA Guidelines Section 15367, the City of Carpinteria (City) is the lead agency with principal responsibility for considering the Project for approval (14 CCR 15000 et seq.).

### 1.2 California Environmental Quality Act Compliance

CEQA, a statewide environmental law contained in California Public Resources Code (PRC) Sections 21000–21177, applies to most public agency decisions to carry out, authorize, or approve actions that have the potential to adversely affect the environment (PRC Section 21000 et seq.). The overarching goal of CEQA is to protect the physical environment. To achieve that goal, CEQA requires that public agencies identify the environmental consequences of their discretionary actions and consider alternatives and mitigation measures that could avoid or reduce significant adverse impacts when avoidance or reduction is feasible. It also gives other public agencies and the public an opportunity to comment on the project. If significant adverse impacts cannot be avoided, reduced, or mitigated to below a level of significance, the public agency is required to prepare an environmental impact report (EIR) and balance the project's environmental concerns with other goals and benefits in a statement of overriding considerations.

This initial study (IS) has been prepared by the City as the lead agency, in accordance with the CEQA Guidelines, to evaluate potential environmental effects and to determine whether an environmental impact report (EIR), a negative declaration, or a mitigated negative declaration (MND) should be prepared for the proposed project.

### 1.3 Preparation and Processing of this Initial Study

The City's Community Development Department directed and supervised preparation of this Initial Study (IS). Although prepared with assistance from the consulting firm MRS Environmental, Inc., the content contained, and the conclusions drawn within this IS reflect the independent judgment of the City. The IS was prepared with the assistance of the following documentation submitted by the applicant as part of the Project application package:

- *Project Description, Padre and Associates Inc., October 2021;*
- *Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities – Volume III – Initial Study, Padre Associates Inc., October 2021;*
- *Summary of Remedial Action Plan, Padre Associates Inc.;*
- *Marine Biological Resources Study, Padre Associates Inc., June 2021;*
- *Essential Fish Habitat Assessment , Padre Associates Inc., October 2021;*
- *Carpinteria Harbor Seal Rookery Monitoring and Protection Plan, Padre Associates Inc., June 2021;*
- *Terrestrial Biological Resources Study , Padre Associates Inc., June 2021;*
- *Tree Report, Padre Associates Inc., Padre Associates Inc., June 2021;*
- *Bluff Retreat Evaluation Report, Padre Associates Inc., June 2021;*
- *Coastal Wetland Delineation Report, Padre Associates Inc., October 2021;*
- *Preliminary Restoration/ Vegetation Plan, Padre Associates Inc., June 2021;*
- *Carp O&G Plant Decommissioning Emissions Calcs June 2021, Padre Associates Inc., ;*
- *Policy Consistency Analysis, October 2021;*
- *Cultural Resources Assessment, Padre Associates Inc., October 2021;*
- *Noise Management Plan, Padre Associates Inc., June 2021;*
- *Traffic, Parking and VMT Analysis, Associated Transportation Engineers, June 2021; and,*
- *Description of Facilities not Included in Project Activities.*

### 1.4 Initial Study Checklist

MRS Environmental, Inc., under the City's guidance, prepared the project's Environmental Checklist (i.e., Initial Study) per CEQA Guidelines Sections 15063–15065. The CEQA Guidelines include a suggested checklist to indicate whether a project would have an adverse impact on the environment. The checklist is found in Section 3, Initial Study, of this document. Following the Environmental Checklist, Sections 3.1 through 3.21 include an explanation and discussion of each significance determination made in the checklist for the project.

For this Initial Study, one of the following four responses is possible for each environmental issue area:

1. Potentially Significant Impact
2. Less-Than-Significant Impact with Mitigation Incorporated
3. Less-Than-Significant Impact
4. No Impact



The checklist and accompanying explanation of checklist responses provide the information and analysis necessary to assess relative environmental impacts of the project. In doing so, the City will determine the extent of additional environmental review for the project.

## **1.5 Point of Contact**

The City of Carpinteria is the lead agency for this environmental document. Any questions about preparation of this IS, its assumptions, or its conclusions should be referred to the following:

Name: Steve Goggia  
Community Development Director  
City of Carpinteria  
Community Development Department  
5775 Carpinteria Avenue  
Carpinteria, California 93013  
Phone: (805) 755-4414

The point of contact for the applicant is as follows:

Becky Trujillo, CPL  
Chevron Regulatory Affairs Manager  
3916 State Street, Suite 200  
Santa Barbara, California, 93105

## 2.0 PROJECT DESCRIPTION

### 2.1 Project Location

Access to the Project site is from U.S. Highway 101 to Bailard Avenue and west onto Carpinteria Avenue to Dump Road. The site is bisected by Dump Road (a private, two-lane roadway) from west to east, and by the Union Pacific Railroad from north to south. The eastern portion of the Project site remains predominantly developed by oil and gas processing equipment, ancillary equipment, and other support facilities/buildings. A large above-ground tank (Tank 861) is the predominant feature onsite. The western portion of the site is primarily open space. The southern third of the site is open space along the bluffs, and two large parking areas utilized in support of the Casitas Pier operations.

The nearshore beach area along Tar Pits Park/Carpinteria State Beach provides public recreational access. A known harbor seal rookery is located approximately 70 feet to the east of Casitas Pier. The City of Carpinteria closes public access to the beach from December 1st to May 31st per ordinance 12.24.090 to avoid human interference with harbor seal pupping at the rookery. However, during the open season, the beach is accessible to the public at low tides from both the west and east. The pipelines and utilities that cross the beach in this area are in some cases above ground, on risers, or are seasonally exposed to view. Offshore water depths range up to 148 feet out to Federal waters.

### 2.2 Historical Site Use

Historical use at the Project site included both agricultural and oil and gas development. The Project Site is located within CA-SBA-6, a large prehistoric shell midden and lithic scatter that indicates seasonal prehistoric habitation. Archaeologist David Rogers initially recorded CA-SBA-6 in 1929 as three distinct loci. He described the site as a dense shell midden between the sea cliff and the railroad with a hunting camp and a cemetery (Rogers, 1929). Agricultural uses included dry farming, row crops, orchards and commercial flower production. Oil and gas processing began in 1959 as part of the offshore Summerland oil field with the installation of Platform Hazel. Oil was stored in Tank 861 and processed gas was sold to the Southern California Gas Company.

The Chevron facility consisted of offices, production pipelines from offshore platforms, separation, processing, and storage infrastructure. Historical processing levels reached up to 20,000 barrels of oil per day and 20 million standard cubic feet per day (MMSCF) of natural gas. The oil was shipped to Ventura via pipeline and the natural gas sold to Southern California Gas Company. Refined products were also transferred from the facility via marine tanker. From 1960 to 1989, the oil and gas plant received oil and gas from several other offshore platforms constructed in the Santa Barbara Channel, including Hilda, Hope, Hazel, and Heidi (Carpinteria Field), and Grace and Gail (Santa Clara Field and Sockeye Field). Abandonment of the wells and decommissioning/removal of offshore Platforms Hazel, Hilda, Hope, and Heidi (4H Platforms) from the Santa Barbara Channel were completed in 1996.

Chevron sold its Santa Barbara Channel assets to Venoco, Inc. in 1998. Platform Grace ceased operations in 1998 and Platform Gail in 2017.

**Chevron Carpinteria Oil and Gas Facility Decommissioning  
Initial Study**



Source: Project Description October 2021.

**Project Location**



## **2.3 Environmental Setting**

### **Existing Project Site**

The Project site encompasses seven parcels (APN Nos. 001-170-003, 001-170-004, 001-170-014, 001-170-021, 001-170-022, and 001-170-023), that total approximately 64.28 acres. The Project site is located on a relatively flat coastal terrace, and slopes slightly downward to the south and west. Coastal bluffs of between 35 and 50 feet in height descend from the terrace to a narrow sand beach (Tar Pits Park at Carpinteria State Beach) and the Pacific Ocean.

### **Surrounding Land Uses**

Surrounding land uses include the Carpinteria City Hall, Carpinteria Avenue, and U.S. Highway 101 to the north, the Pacific Ocean to the south, the Concha Loma single-family residential neighborhood to the west, and a public golf driving range, agriculture, and open space to the east.

## **2.4 Proposed Project**

The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of impacted soils at the onshore Carpinteria Oil and Gas Processing Facility. Remediation is intended to achieve the most stringent clean up levels as determined by the Santa Barbara County Public Health Department, Environmental Health Services Department (SBCEHS), Regional Water Quality Control Board (RWQCB) and U.S. Environmental Protection Agency (USEPA), while preserving existing site resources, including mature trees and bluffs, and while respecting site constraints including buffer zones adjacent to the railroad right-of-way. Tier 1 Environmental Screening Levels for residential uses (or equally protective contaminant-specific, agency-approved levels) provide the standard for on-site soil remediation, consistent with Chevron's clean up objectives. Although relevant agencies with jurisdiction will establish required clean up levels, by assuming the most stringent clean up level, soil excavation and truck trip estimates are higher. This assumption affects the reasonably foreseeable scope of environmental impacts because the most stringent clean up levels would require more intensive remediation activities (e.g., truck trips, site activities). The most stringent clean up levels would also result in greater flexibility for development on the site meeting the most rigorous standards (e.g., unrestricted land use). Primary Project tasks are summarized in the list below:

### **Onshore**

- Idling and removal of all existing surface and subsurface equipment, piping, and structures within the Oil and Gas Processing Plant;
- Removal of concrete foundations, asphalt, oil spray and road base;
- Excavation/remediation of any impacted soil;
- Recycling/disposal of all materials removed from the Project site(s); and,
- Site restoration.

### **Beach Crossing and Offshore Pipelines (State Waters)**

- Pig and flush pipelines in preparation for removal;
- Removal of offshore Project pipeline segments out to 3-mile State waters limit;
- Potential nighttime activities in surf zone due to tidal restrictions;
- Removal of nearshore beach crossing pipeline segments;
- Recycling/disposal of all materials removed from the Project site(s); and,
- Site restoration.

### **Project Objectives**

The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of any impacted soils at the onshore Carpinteria Oil and Gas Processing Facility to accommodate the site's potential future redevelopment. Any residually impacted soils at the Project Site will be remediated to a unrestricted land use standard consistent with the approvals from the Santa Barbara County Public Health Department, Environmental Health Services Department (SBCEHS), Regional Water Quality Control Board (RWQCB) and U.S. Environmental Protection Agency (USEPA) to facilitate reuse of the property for land use acceptable under the City's current Draft General Plan/Local Coastal Plan Update (anticipated to be Planned Unit Development and Open Space/Recreation). Nearshore and offshore pipeline segments will be removed.

## **2.5 Construction Schedule**

Based on the proposed Project application package, the Project is expected to require 670 days over a three year period. Daily schedule is estimated at Monday through Friday for eight to ten hours for onshore components and up to seven day a week and twelve hours per day for offshore components. The applicant has submitted the following schedule in the table below.

<b>Project Activity Location</b>	<b>Approximate Date Range</b>
Project Initiation	October 2022
<b>Onshore</b>	
Chevron Pipeline Area	October 2022 – December 2022
Former Marketing Terminal	April 2023 – August 2023
Shop and Maintenance Area	August 2023 – October 2023
Main Plant Area	May 2024 – March 2025
MSRC Lease Area	June 2024 – August 2024
<b>Offshore</b>	
Former Marketing Terminal/Marine Terminal Offloading Bundle	August 2024 – November 2024
Gail and Grace Pipeline Bundle	September 2024 – December 2024
<b>Grading and Revegetation</b>	
Pier Parking Lot Area	December 2024 – March 2025
Final Site Grading and Revegetation	March 2025 – May 2025
Project Completion	May 2025

Source: Chevron Project Description, October 2021 .

***Chevron Carpinteria Oil and Gas Facility Decommissioning Initial Study***

**2.6 Project Approvals**

The proposed Project would require review and or approval from local, state and federal public agencies. The table below submitted by the applicant provides a comprehensive list of the potential public agencies for the proposed Project. CalGEM has been added to the list for consultation and guidance on the legacy wells located on the Project site.

<b>Agency</b>	<b>Regulated Activity</b>	<b>Project Components</b>	<b>Authority</b>	<b>Permit Approval</b>
<b>Local</b>				
City of Carpinteria	Removal of project components located onshore and within City deeded tidelands (beach & offshore segments). Activities within designated coastal zone	Onshore operations and deeded tidelands	California Coastal Act and CSLC deeded tidelands, CEQA lead agency	Certification of CEQA Documentation Coastal Development Permit for onshore facilities removals and remediation Demolition and Grading Permit for onshore facilities removals and remediation Approval of Facility decommissioning plan within City Deeded Tidelands and Issuance of a Lease Quit Claim
Santa Barbara County Department of Planning and Building	Removal of project components located within County deeded tidelands. Activities within designated coastal zone	Deeded tidelands	California Coastal Act and CSLC deeded tidelands	Approval of Pipeline Right of Way Lease Agreement within County Deeded Tidelands
Santa Barbara County Public Health Department, Environmental Health Services Department	Establishment of remediation levels for any onshore impacted soil	Onshore Facilities	Onsite Hazardous Waste Treatment ("Tiered Permit") - Authority: HSC Chapter 6.5 & Title 22 CCR Division 4.5; California Accidental Release Prevention ("CalARP") - Authority: Chapter 6.95, Article 2 & Title 19 CCR Chapter 4.5	Approval of Remedial Action Plan
Santa Barbara County Air Pollution Control District	Air emissions	Marine and onshore operations	1990 Clean Air Act CEQA Review	CEQA Review Portable Engine Permits for onshore facilities
<b>State</b>				

**Chevron Carpinteria Oil and Gas Facility Decommissioning  
Initial Study**

Agency	Regulated Activity	Project Components	Authority	Permit Approval
California Coastal Commission	Any development within the coastal zone	Marine and onshore within coastal zone	California Coastal Act Coastal Zone Management Act	Federal Consistency Determination for all Federal approvals and permits. Coastal Development Permit for actions within State Waters Appeal jurisdiction of Coastal Development Permits issued for onshore activities with the Coastal Zone
California Department of Fish and Wildlife	Activities affecting State Waters biological resources Onshore activities affecting onshore biological resources including streams and wetlands	Marine component and onshore facilities within Coastal Zone	State Endangered Species Act Section 1601	Consultation under State Endangered Species Act Section 1601 approval for work within designated waterways
Regional Water Quality Control Board (RWQCB)	Discharges that may affect surface and ground water quality in waters of the state Discharges associated with flushing pipes; runoff from facilities during storms Sanitary and domestic waters from the platforms or vessels Establishment of remediation targets of any impacted groundwater	Marine and onshore operations	Clean Water Act Porter-Cologne State Water Quality Act	Section 401 certification in association with 404 Permit Approvals Stormwater permits for all onshore excavations Approval of Remedial Action Plan
California State Office of Historic Preservation (OHP) and the State Historical Preservation Office (SHPO)	Impacts to historic and pre-historic resources	None identified to date	National Historic Preservation Act Protection of Historic Resources (36CCR800)	Consultation under Section 106
California State Fire Marshal, Hazardous Liquid Pipeline Safety Division	Pipeline inspections and safety	Onshore and offshore pipelines	Federal 49 CFR Part 195 State CCR/Chapter 5.5 Sections 51010 through 51019	Consultation with CalGEM and California States Lands Commission (CSLC)
CalGEM	To be determined	Legacy wells	California Health and Safety Code Division 3 Oil and Gas Article 4.1 Abandoned Wells	To be determined



**Chevron Carpinteria Oil and Gas Facility Decommissioning  
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Agency	Regulated Activity	Project Components	Authority	Permit Approval
<b>Federal</b>				
U.S. Army Corps of Engineers (U.S. ACOE)	Discharge of dredged or fill material into waters of the U.S. during construction. Jurisdictional waters include territorial seas, tidelands, rivers, streams and wetlands Structures or work in or affecting navigable waters of the U.S. Review and issuance concurrent with Section 404	Marine components	Section 404 Clean Water Act (33 USC 1344)  Section 10 of the Rivers and Harbors Act (33 U.S.C. 403) (Section 4(f) of the OCS Act of 1953)	Issuance of a 404 Permit associated with excavation and related bottom disturbance  Issuance of a Section 10 Permit associated with excavation and related bottom disturbance in navigable waters
United States Fish & Wildlife Service (USFWS)	Impacts to federally-listed endangered and threatened species and species proposed for listing	Both terrestrial & marine components	16 USCA 1513 50 CFR Section 17	Consultation under the Endangered Species Act (Section 7) and Issuance of Biological Opinion/Incidental Take Permit (if necessary)
National Oceanic & Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS)	Impacts to federally-listed and species proposed for listing. Protection of Marine Mammals Managed Marine Fish Resources	Marine components	16 USCA 1513 50 CFR Section 17	Consultation under the Federal Endangered Species Act, Section 7, Marine Mammal Protection Act, Essential Fish Habitat Assessment Issuance of Biological Opinion/Incidental Take Permit (if necessary)
U.S. Environmental Protection Agency (EPA)	Discharges that may affect surface and ground water quality Establish remediation levels for onshore PCB-impacted soil and groundwater	Both terrestrial & marine components	Clean Water Act 40 CFR 761.61(a) 40 CFR 761.61(c)	Issuance of NPDES permit (if necessary) for offshore discharges. Termination of existing NPDES Permits associated with facility operations Approval of remedial activities for PCBs
United States Coast Guard (USCG)	Activities that may affect navigable waters	Activities in navigable waters	33 CFR Part 62, 67 and 153 OPA 90	Notice to Mariners

Source: Chevron Project Description, October 2021 .

## 3.0 INITIAL STUDY CHECKLIST

**1. Project title:**

Decommissioning and Remediation Of the Chevron Carpinteria Oil and Gas Processing Facility

**2. Lead agency name and address:**

City of Carpinteria  
Community Development Department  
5775 Carpinteria Avenue  
Carpinteria, California 93013

**3. Contact person and phone number:**

Name: Steve Goggia  
Community Development Director  
Phone: (805) 755-4414  
Email: steveg@ci.carpinteria.ca.us

**4. Project location:**

5675 and 5663 Carpinteria Avenue, Carpinteria, CA

**5. Project sponsor's name and address:**

Becky Trujillo, CPL  
Chevron Regulatory Affairs Manager  
3916 State Street, Suite 200  
Santa Barbara, California, 93105

**6. General plan designation:** Coastal Dependent Industrial

**7. Zoning:** The Project site is Coastal Dependent Industry (CDI) and Recreation (Rec).

**8. Description of project:**

The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of impacted soils at the onshore Carpinteria Oil and Gas Processing Facility. Remediation is intended to achieve the most stringent clean up levels as determined by the Santa Barbara County Public Health Department, Environmental Health Services Department (SBCEHS), Regional Water Quality Control Board (RWQCB) and U.S. Environmental Protection Agency (USEPA), while preserving existing site resources, including mature trees and bluffs, and while respecting site constraints including buffer zones adjacent to the railroad right-of-way. Tier 1 Environmental Screening Levels for residential uses (or equally protective contaminant-specific, agency-approved levels) provide the standard for on-site soil remediation,

consistent with Chevron's rigorous clean up objectives. Although relevant agencies with jurisdiction will establish required clean up levels, by assuming the most stringent clean up level, soil excavation and truck trip estimates are higher. This assumption affects the reasonably foreseeable scope of environmental impacts because the most stringent clean up levels would require more intensive remediation activities (e.g., truck trips, site activities). The most stringent clean up levels would also result in greater flexibility for development on the site meeting the most rigorous standards (e.g., unrestricted land use).

**Surrounding Land Uses and Setting:**

Surrounding land uses include the Carpinteria City Hall, Carpinteria Avenue, and U.S. Highway 101 to the north, the Pacific Ocean to the south, the Concha Loma single-family residential neighborhood to the west, and a public golf driving range, agriculture, and open space to the east.

**9. Other public agencies whose approval is required: (e.g., permits, financing approval, or participation agreement.)**

See Section 2.5, Project Approvals, for details.

**10. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

The City will contact the appropriate Native American tribe representative as part of the noticing of the proposed Project and preparation of the environmental document. The Project site does have an identified archaeological resource (cultural resource CA-SBA-06) and the Project will have mitigation measures including a Native American monitor to protect CA-SBA-06 and other potential cultural resources.

**Environmental Factors Potentially Affected**

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture and Forestry Resources	<input checked="" type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input type="checkbox"/> Energy
<input checked="" type="checkbox"/> Geology & Soils	<input checked="" type="checkbox"/> Greenhouse Gas Emissions	<input checked="" type="checkbox"/> Hazards & Hazardous Materials
<input checked="" type="checkbox"/> Hydrology & Water Quality	<input checked="" type="checkbox"/> Land Use & Planning	<input type="checkbox"/> Mineral Resources

***Chevron Carpinteria Oil and Gas Facility Decommissioning  
Initial Study***

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- |                                                       |                                                    |                                                                        |
|-------------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Noise             | <input type="checkbox"/> Population & Housing      | <input type="checkbox"/> Public Services                               |
| <input type="checkbox"/> Recreation                   | <input checked="" type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources          |
| <input type="checkbox"/> Utilities & Services Systems | <input type="checkbox"/> Wildfire                  | <input checked="" type="checkbox"/> Mandatory Findings of Significance |




## Determination:

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

  
\_\_\_\_\_  
Signature

  
\_\_\_\_\_  
Date

## Evaluation of Environmental Impacts:

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on- site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
  - a) Earlier Analyses Used. Identify and state where they are available for review.
  - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
  - a) the significance criteria or threshold, if any, used to evaluate each question; and
  - b) the mitigation measure identified, if any, to reduce the impact to less than significance

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
<b>I. AESTHETICS.</b> Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>II. AGRICULTURE AND FORESTRY RESOURCES.</b> In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>III. AIR QUALITY.</b> Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>IV. BIOLOGICAL RESOURCES.</b> Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>V. CULTURAL RESOURCES.</b> Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>VI. ENERGY.</b> Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>VII. GEOLOGY AND SOILS.</b> Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>VIII. GREENHOUSE GAS EMISSIONS.</b> Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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<b>IX. HAZARDS AND HAZARDOUS MATERIALS.</b> Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>X. HYDROLOGY AND WATER QUALITY.</b> Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would				
i) result in a substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>XI. LAND USE AND PLANNING.</b> Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>XII. MINERAL RESOURCES.</b> Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
<b>XIII. NOISE.</b> Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XIV. POPULATION AND HOUSING.</b> Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XV. PUBLIC SERVICES.</b> Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
<b>XVI. RECREATION.</b>				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>XVII. TRANSPORTATION.</b> Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XVIII. TRIBAL CULTURAL RESOURCES.</b>				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XIX. UTILITIES AND SERVICE SYSTEMS.</b> Would the project:				

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XX. WILDFIRE.</b> If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XXI. MANDATORY FINDINGS OF SIGNIFICANCE.</b>				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 3.1 Aesthetics

**a) *Would the project have a substantial adverse effect on a scenic vista?***

**Less than Significant.** The Carpinteria Bluffs and Carpinteria Avenue view sheds are considered important scenic vistas to the City. No new structures are part of the proposed Project, rather, existing structures (surface and subsurface infrastructure of the oil and gas facility) are proposed for removal.

The proposed Project includes limited tree removal, four percent or approximately 40 trees along the north-south orientated windrow along the eastern Project boundary. These trees are part of a parallel set of two rows of trees, therefore, removal of a small percentage of the trees would not significantly alter the visual effect of the tree windrow or degrade the view scape.



Temporary stockpiling of soils, parking and storage of construction equipment at the Project site would potentially be visible during the three year Project duration. These features would be partially screened by the windrow trees or other vegetation but may be potentially seen by the public from certain viewpoints. Given the fact that the primary view sheds in the Project area are the Carpinteria Bluffs, Tar Pits Park, and the ocean, temporary impacts to the overall area scenic vistas from the Project would be less than significant.

Offshore portions of the Project would include the use of large work vessels, barges, and other types of work boats. These vessels would be visible from the bluffs, beach and ocean users and would be an increase of existing vessel traffic. However, the potential impact to coastal views would be temporary and therefore the short term impact to the coastal scenic vista would be less than significant.

**b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings in a state scenic highway?***

**Less than Significant.** Views from Highway 101 of the Project site are broken up by trees, therefore, views of the Project site from moving vehicles on Highway 101 would be less than significant. The proposed Project will require the removal 62 non-native trees for soil excavation and remediation. None of the trees are located in City designated Open Space or ESHA areas. The City considers the loss of ten percent of trees of biological value on a project site a potentially significant impact. The Tree Report for the proposed Project documented 1,500 total trees on the Project site, therefore, the loss of 62 trees equates to approximately four percent which is less than the ten percent of the City guideline and would not be expected to have a significant impact on a viewshed. The proposed Project involves removal of oil and gas processing equipment infrastructure, therefore, would not damage any scenic resources such as trees, rock outcroppings, or historic buildings.

**c) *Would the project, in nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?***

**Less than Significant.** The Project site is zoned as Coastal Industry District (M-CD), and Recreation (REC). The Project would remove the oil and gas processing equipment infrastructure and remediate the area to undeveloped conditions. Therefore, the Project would not conflict with zoning or City regulations or policies related to scenic quality. The construction activities associated with the Project would potentially cause short term impacts to public views of the scenic area, however, these impacts would be temporary and therefore less than significant.

**d) *Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?***

**Less Than Significant with Mitigation.** The Project would involve the short term use of lighting during critical work activities. Existing site vegetation, including the trees located in the Buffer Zone, would

help minimize lighting disturbance to adjacent neighborhoods such as Concha Loma. Onshore Project lighting impacts to Carpinteria Avenue and Highway 101 would be minimized by existing fencing and vegetation.

Construction activities on the beach areas may include nighttime lighting to work with tidal and weather conditions. Lights from these activities would be visible from the Carpinteria Bluffs and adjacent neighborhoods but could be mitigated with standard light minimization techniques such as the use of low intensity lights and light shielding. With the use of these types of light minimization methods, the short term degradation of nighttime views would be less than significant with mitigation.

### 3.2 Agriculture and Forestry Resources

- a) *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?*

**No Impact.** The Project site has been used for agriculture in the past, however, the site currently has no agricultural uses. The site has not been identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, the proposed Project would not convert farmland to a non-agricultural use.

- b) *Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

**No Impact.** The Project site is not currently zoned agricultural and is not located within or adjacent to parcels enrolled in Williamson Act contracts.

- c) *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*

**No Impact.** The Project site is not currently zoned in support of forest lands or timberlands. The Project site is not located within or adjacent to forest land as defined in the PRC Sections noted above.

- d) *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

**No Impact.** The proposed Project does not involve forest land, therefore, would not impact or convert forest land to a non-forest use.

- e) ***Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?***

**No Impact.** The proposed Project may proceed future re-zoning to a residential or other use, however, the Project would not result in conversion of any farmland or forest land uses.

### 3.3 Air Quality

- a) ***Would the project conflict with or obstruct implementation of the applicable air quality plan?***

**No Impact.** The proposed Project does not involve any type of development; the Project would remove of oil and gas processing equipment infrastructure and remediate the area to natural, undeveloped conditions. Emissions associated with the Project involve construction equipment on a temporary basis, therefore, the Project would not conflict or impact the implementation of any air quality plan.

- b) ***Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?***

**Less than Significant.** The applicant submitted emissions calculations as part of the application package to the City (*Appendix E – Carp O&G Plant Decommissioning Emissions Calcs June 2021*). A summary of those emissions estimated for the construction equipment for the decommissioning activities along with applicable Santa Barbara APCD and County thresholds is listed in the table below.

Emissions Scenario	NO <sub>x</sub>	ROC	PM <sub>10</sub>
Peak 12 Month (tons/year)	8.35	0.72	0.37
Peak Day (pounds/day)	228.2	20.1	10.8
Peak Day Motor Vehicle Only (pounds/day)	13.6	0.2	0.2
SBCAPCD Rule 202 Construction Emissions (tons/year)	25	25	25
SBCAPCD Motor Vehicle Only (pounds/day)	25	25	---
SB County Motor Vehicle Only (pounds/day)	25	---	---

Source: Chevron Appendix E, – Carp O&G Plant Decommissioning Emissions Calcs June 2021 .

As listed in the table above, construction/decommissioning emissions associated with the Project are below the SBCAPCD and SB County thresholds for construction activities, therefore, the emissions of criteria pollutants from the Project would be less than significant.

- c) ***Would the project expose sensitive receptors to substantial pollutant concentrations?***

**Less than Significant.** As noted above, the proposed Project emissions are estimated to be below both the SBAPCD and SB County thresholds for construction activity emissions. The closest residential community to the Project site, the Concha Loma neighborhood, is approximately 300 feet from the Former Marketing Terminal (FMT) section of the Project. Construction activities in the FMT area very

short term with an anticipated schedule of 90 days. Other Project work areas are at least 500 feet from the Concha Loma neighborhood. In addition, SBAPCD Rule 345, Control of Fugitive Dust from Construction and Demolition Activities, would apply to the Project and would minimize offsite particulate matter impacts. Therefore, the proposed Project pollutant concentrations to sensitive receptors would be less than significant.

**d) *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?***

***Less than Significant with Mitigation.*** The proposed Project has the potential for hydrocarbon related odors from the decommissioning and demolition of pipelines, tanks, contaminated soils, and other oil and gas processing infrastructure. Pipelines and tanks are proposed to be flushed to remove any residual hydrocarbons with the flush water to be disposed to permitted and approved disposal facilities. The Project does not propose to do any venting of storage tanks. As noted above, contaminated soil activities would be subject to dust control measure per SBCAPCD and the trucks transporting soils would be required to be covered. In addition, the nearest residential location is 300 feet from the Project site and other areas are at least 500 feet away. Therefore, the potential for offsite impacts of hydrocarbon from the Project would not be expected to impact a significant number of people. The added mitigation measures for dust control and odor controls should result in impacts that are less than significant with mitigation.

### **3.4 Biological Resources**

The applicant included the following reports in support of analyzing the potential Project impacts to biological resources:

- *Essential Fish Habitat Assessment*, Padre Associates Inc., October 2021;
- *Terrestrial Biological Resources Study*, Padre Associates Inc., June 2021;
- *Tree Report*, Padre Associates Inc., June 2021;
- *Carpinteria Harbor Seal Rookery Monitoring and Protection Plan*, Padre Associates Inc., June 2021;
- *Coastal Wetland Delineation Report*, Padre Associates Inc., October 2021; and
- *Preliminary Restoration/Vegetation Plan*, Padre Associates Inc., June 2021.

**a) *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

***Potentially Significant.*** The analysis contained in the reports noted above determined potential impacts from the proposed Project to the following species:

- Monarch Butterfly;
- Southern California Legless Lizard;
- Western Snowy Plover;



- Cooper's Hawk;
- White-tailed Kite;
- Loggerhead Shrike;
- Sharp-shinned Hawk;
- Scripp's Murrelet;
- Ashy Storm Petrel;
- Black Storm Petrel;
- Marine Mammals; and,
- Carpinteria Harbor Seal Rookery.

It should be noted that Southern California Legless Lizard has a Low-Moderate potential to occur at the site since the potential scrub habitat is highly disturbed. The biological resource assessments and analysis further identified the following types of mitigation to reduce the potential impacts to the species noted above to less than significant:

- Twice monthly surveys for the Monarch butterfly along with avoidance measures if roosting Monarch butterflies are found;
- A nesting bird survey and buffer zones if nesting birds are observed;
- A Marine Wildlife Contingency and Training Plan; and,
- Harbor Seal Rookery Monitoring and Protection Plan.

With the implementation of the mitigation measures noted above, and other mitigation measures that may be needed for other species, impacts to candidate, sensitive, or special status species would be reduced, however, any impacts to these biological resources from the overall decommissioning and the release of hydrocarbons would be considered potentially significant.

**b) *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

***Potentially Significant.*** The biological resource assessments and analysis for the proposed Project identified the Environmental Sensitive Habitat Areas (ESHAs) as the following:

- A small patch of willows occurs in the Drainage No. 4 area identified as potential riparian habitat;
- Potential Monarch butterfly roost areas;
- Harbor seal rookery;
- Essential fish habitat areas;
- Rocky intertidal and nearshore areas; and,
- Carpinteria Bluffs.

No Project activities are proposed for the Drainage No. 4 area. The potential for impacts to the Monarch butterfly roost areas would be addressed by the twice monthly survey and avoidance measures noted above. Potential impacts to the Harbor Seal Rookery would be mitigated by a Harbor Seal Rookery Monitoring and Protection Plan, however, a release of hydrocarbons from pipeline construction activities would be potentially significant.

The Essential Fish Habitat Assessment identified potential impacts to rocky intertidal/nearshore areas and fish habitat from boat anchors, pipeline removal equipment, underwater cutting and associated sedimentation of the water column. These potential impacts could be mitigated with a Essential Fish Habitat Avoidance Plan. The plan would include a pre-project biological survey and mapped anchoring locations to avoid hard bottom locations. Impacts to the water column from sedimentation would be temporary and short term. However, even with the implementation of as Essential Fish Habitat Avoidance Plan, impacts to rocky intertidal, nearshore areas and fish habitat from a hydrocarbon release could be potentially significant.

Potential impacts to the Carpinteria Bluffs could result from the pipeline removal from the bluff face and the potential for increase in run-off and bluff erosion from soil removal. The proposed Project stormwater management plan, habitat restoration plan, and bluff stabilization methods such as compaction, revegetation, or other measures identified by a geotechnical engineer would minimize the potential for accelerated bluff retreat to less than significant. A release of hydrocarbons to the ESHA area of the Carpinteria Bluffs from the removal of pipelines in the sensitive has the potential to be significant impact.

- c) *Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

**Less than Significant with Mitigation.** The Coastal Wetland Delineation Report for the proposed Project identified two wetland areas:

- Area around Tank 861 and associated pipelines identified as Wetland W-1; and,
- Area around the bluff face identified as Wetland W-5.

The wetland associated with Tank 861 is due to the secondary containment berm for the tank itself, therefore, removal of the tank and associated infrastructure would permanently remove the wetland. Mitigation for this impact is identified in the Coastal Wetland Delineation Report in the form of a coastal wetland replacement by enhancement of the wetland area at Drainage No. 4 area. With this or similar mitigation the loss of the man-made wetland associated with the secondary containment of Tank 861 would be reduced to less than significant.

The potential impact to the hydrophytic vegetation at the bluff face, known as Wetland W-5, would be temporary with the vegetation expected to grow back at the bluff face.

- d) *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

**Less than Significant.** The proposed Project site onshore does not connect to two habitat areas and is primarily developed. As noted above, the vegetation at the bluff face disturbed by pipeline removal

activities is expected to grow back. Pipeline removal offshore would be limited to the pipeline right of way and adjacent areas and would not prevent fish or marine mammals from moving about in the Santa Barbara Channel. Noise from underwater construction and demolition activities has the potential to impact whales and other marine mammals, however, a marine mammal watch and avoidance program or other similar mitigation program would minimize potential marine mammal impacts to less than significant. Noise also has the potential to impact the harbor seal rookery but noise mitigation measures can reduce the noise impact to less than significant. Therefore, the potential impact to the movement of fish or wildlife species and migratory wildlife corridors would be less than significant.

- e) *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?***

***Less than Significant.*** The proposed Project will require the removal 62 non-native trees for soil excavation and remediation. None of the trees are located in City designated Open Space or ESHA areas. The City considers the loss of ten percent of trees of biological value on a project site a potentially significant impact. The Tree Report for the proposed Project documented 1,500 total trees on the Project site, therefore, the loss of 62 trees equates to approximately four percent which is less than the ten percent of the City guideline. In addition, the Project site is primarily developed and would be remediated , therefore, the Project would not conflict with any ordinances protecting biological resources or tree protection.

- f) *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?***

**No Impact.** The Project site is not subject to a habitat conservation plan, natural community conservation plan, or other habitat conservation plan.

### **3.5 Cultural Resources**

- a) *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?***

***Potentially significant.*** The applicant submitted a Cultural Resources Assessment for the proposed Project. In 1980, CA-SBA-6 was evaluated and determined eligible for listing on the National Register of Historic Places (NRHP); thus, CA-SBA-6 qualifies as a historical resource under the California Environmental Quality Act (CEQA). Previous cultural resource studies and testing have identified intact deposits related to CA-SBA-6 within the Former Marketing Terminal Area, the Chevron Pipeline Area, the Pier Parking Lot Area, the Railroad Ditch Area, and the Former Nursery Area; however, no Project impacts are proposed for the Railroad Ditch Area or the Former Nursery Area.. Mitigation measures for historical resources, also applicable to cultural resources impacts and are included below and are expected to be able to mitigate the impact to less than significant:

MM CUL-1: Cultural Resources Management Plan (CRMP). The applicant shall retain an archaeologist that meets the minimum professional qualifications standards set forth by the U.S. Secretary of the Interior to prepare a comprehensive Project CRMP. The purpose of the CRMP is to document the actions and procedures to be followed to ensure avoidance or minimization of impacts to cultural resources consistent with CEQA Guidelines Section 15126.4(b). The CRMP shall include at a minimum and shall implement the performance standards in MM CUL-3 through 8:

- A description of the roles and responsibilities of cultural resources personnel (including Native American representatives), and the reporting relationships with Project construction management, including lines of communication and notification procedures.
- Description of how the monitoring shall occur.
- Description of frequency of monitoring (e.g., full-time, part time, spot checking).
- High-resolution maps for use by cultural resource monitors to identify locations of intact cultural deposits.
- Description of what resources are expected to be encountered.
- Description of circumstances that would result in the halting of work.
- Description of procedures for halting work on the site and notification procedures.
- Procedures for the appropriate treatment of human remains.
- Description of artifact collection, retention/disposal, and curation policies, including a statement that all cultural materials retained will be curated in accordance with the requirements of an identified, qualified curatorial facility, and that the applicant shall be responsible for all expenses associated with the curation of the materials at the qualified curatorial facility; and
- A description of monitoring reporting procedures including the requirement that reports resulting from the Project be filed with the Central Coast Information Center within one year of Project completion.

Plan Requirements/Timing: The CRMP shall be submitted to the City and approved prior to the initiation of any ground disturbance.

Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-2: Worker Cultural Resources Awareness Program. The applicant shall develop and implement a worker cultural resources awareness program for all applicant staff, consultants, contractors, subcontractors, and other workers, with subsequent training sessions to accommodate new personnel becoming involved in the Project. The program may be conducted together with other environmental or safety awareness and education programs for the Project, provided that the program elements pertaining to cultural resources are provided by a qualified archaeologist. The awareness program shall address:

- The cultural sensitivity of the Project site and how to identify these types of resources.
- Specific procedures to be followed in the event of an inadvertent discovery.
- Safety procedures when working with monitors; and,
- Consequences in the event of noncompliance.

Plan Requirements/Timing: The worker cultural resources awareness program shall be submitted to the City and approved prior to the initiation of any ground disturbance.

Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-3: Cultural Resources Monitoring and Avoidance. Cultural resources monitoring shall be conducted during Project-related ground-disturbing activities for the purpose of identifying and avoiding impacts to cultural resources, consistent with the CRMP. The monitoring shall be conducted under the supervision of a City-approved archaeologist and a Native American representative. In the event of any inadvertent discovery of prehistoric or historic period archaeological resources during construction, all work within 50 feet of the discovery shall immediately cease (or greater or lesser distance as needed to protect the discovery and determined in the field by the Project archaeologist). The applicant shall immediately notify the City of Carpinteria. The Project archaeologist shall evaluate the significance of the discovery prior to resuming any activities that could impact the site/discovery. If the Project archaeologist determines that the find may qualify for listing in the CRHR, the site shall be avoided or shall be subject to a mitigation program, such as data recovery excavations, and funded by the applicant. Work shall not resume until authorization is received from the City.

Plan Requirements/Timing: Cultural resources monitoring requirements shall be documented in the approved CRMP.

Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-4: Avoidance of Inadvertent Impacts to Cultural Resources. The applicant shall ensure that Project-related activities are limited to permitted areas to avoid inadvertent impacts to Site CA-SBA-6. An exclusion zone shall be designated around each intact portion of CA-SBA-6 within the Project site. An exclusion zone is a fenced area where construction equipment and personnel are not permitted. The exclusion zone fencing shall be installed (and later removed) under the direction of a City-approved archaeologist and a Native American representative and shall be placed one meter beyond the boundary of the defined area to avoid inadvertent damage to cultural resources during installation.

Plan Requirements/Timing: Exclusion zones shall be documented in the approved CRMP and fenced prior to ground disturbance.

Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-5: Identification of Discovered Human Remains. Human remains and burials have been encountered during previous cultural resources studies within the Project site. The applicant shall retain



a forensic anthropologist (or functional equivalent) to examine and identify bone fragments as human or not human. The forensic anthropologist may be available on an on call basis and not need to be present during all ground disturbance. Additionally, if numerous bone fragments are encountered during ground-disturbing activities, arrangements shall be made for the forensic anthropologist to make regularly scheduled (i.e., weekly, monthly) visits.

Plan Requirements/Timing: A forensic anthropologist (or functional equivalent) shall be under contract prior to any ground disturbance.

Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-6: Avoidance of Human Remains. If human remains are unearthed, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. The City shall be immediately notified of any human remains found. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission.

Plan Requirements/Timing: Notification requirements and contacts shall be documented in the approved CRMP.

Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-7: Curation of Cultural Materials. Prior to any ground disturbance, the applicant shall identify a single accredited repository at which to curate all archaeological materials recovered from the Project Site. The repository shall be located in southern California so that the materials are available locally to Tribal members and researchers and shall meet the standards provided in the California State Historical Resources Commission's Guidelines for the Curation of Archaeological Collections. The applicant shall work with the identified local curatorial facility to transfer curation of materials currently in their possession or currently housed at a nonlocal facility, to the agreed-upon accredited local repository such that the materials can be accessioned as a unified collection. Subsequently, materials transferred from a non-local facility may require evaluation using current analytic methods to re-analyze artifacts and faunal remains that were recovered from CA-SBA-6 during previous excavations. If it is determined that there is no southern California curation facility that can accommodate the entire CA-SBA-6 collection, other accredited facilities in the State of California may be considered.

Plan Requirements/Timing: Curation requirements and contacts shall be documented in the approved CRMP.

Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-8: Phase III Data Recovery. Any potentially intact portions of CA-SBA-6 that may be impacted by the Project shall first be mitigated with Phase III data recovery excavations prior to ground disturbance. The Phase III data recovery excavations shall be conducted under the direction of a research design and testing plan and may consist of a combination of Data Recovery Excavation Units and Shovel Test Probes.

Plan Requirements/Timing: The approved CRMP shall identify conditions when a Phase III data recovery program is required and methods for implementation.

Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

**b) *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?***

***Less than Significant with Mitigation.*** The Cultural Resources Assessment identified archaeological resources at the Project site (cultural resource CA-SBA-06). CA-SBA-6, is a large prehistoric shell midden and lithic scatter that indicates seasonal prehistoric habitation. Archaeologist David Rogers initially recorded CA-SBA-6 in 1929 as three distinct loci. He described the site as a dense shell midden between the sea cliff and the railroad with a hunting camp and a cemetery (Rogers, 1929). The report details the resource as disturbed to heavily disturbed dependent on the location within the Project site. Given the presence of a cultural resource and the ground disturbing activities of the proposed Project, potential for impacts to previously undisturbed resources is possible without mitigation. Mitigation Measures CUL-1 to CUL-8 detailed above would reduce the potential for impacts to archaeological resources to less than significant.

**c) *Would the project disturb any human remains, including those interred outside of dedicated cemeteries?***

***Potentially Significant.*** Due to the potential to disturb known human remains from the ground disturbing activities of the proposed Project, mitigation measures such as a Cultural Resources Management Plan and worker training for cultural resource awareness would be required to reduce potential impacts (see MM CUL-1 to CUL-8 above). However, because the majority of the Project Site is a burial site and known cemetery with a substantial number of human remains, excavation impacts are considered to be significant.

### 3.6 Energy

- a) *Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

**Less Than Significant Impact.** The proposed Project will use energy for the construction equipment, vehicles and marine vessels to remove and transport the oil and gas processing infrastructure and potential contaminated soils. However, this short term energy use would not be considered to be wasteful, inefficient or unnecessary. The Project proposes to remediate the area to natural, undeveloped conditions so there would be no energy use associated with operations.

- b) *Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

**No Impact.** The proposed Project does not involve any energy use outside of the short term construction activities and thus would not obstruct with any state or local renewable energy plan impact energy efficiency.

### 3.7 Geology and Soils

- a) *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*

- i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*
- ii) *Strong seismic ground shaking?*
- iii) *Seismic-related ground failure, including liquefaction?*
- iv) *Landslides?*

**No Impact.** The proposed Project is not located on an area designated as a known earthquake fault on the Alquist-Priolo Earthquake Fault Zoning map. The proposed Project would not cause adverse effects or exposure to ground shaking, liquification or landslides because it does not involve the development of any structures or facilities at the Project site.

- b) *Would the project result in substantial soil erosion or the loss of topsoil?*

**Less Than Significant Impact.** The proposed Project would include the removal of contaminated soils and replacement of those soils with clean imported fill material. The remediated areas would be graded

to pre-project natural topography and treated with soil binders and or seed mix to prevent erosion. The site is not zoned for agriculture and so there would be no significant impact to topsoil.

- c) ***Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?***

***Less Than Significant Impact with Mitigation.*** The proposed Project involves the removal of pipeline sections from the Carpinteria Bluffs. Based on a report (*Bluff Retreat Evaluation Report Padre Associates Inc. June 2021*) submitted by the applicant, the bluff retreat rate is estimated at 14 centimeters per year. Pipeline removal activities in the bluff area could accelerate the bluff retreat rate without mitigation measures. Bluff stabilization methods such as compaction, revegetation, or other measures identified by a geotechnical engineer would minimize the potential for accelerated bluff retreat to less than significant.

- d) ***Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?***

***No Impact.*** Based on regional soil mapping, the Project site does not support expansive soils. The proposed Project does not involve the development of any structures or facilities at the Project site and therefore would not create an increase of risk to life or property.

- e) ***Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?***

***No Impact.*** The Project does not involve any development that would generate municipal wastewater or require the use of septic tanks or alternative wastewater disposal systems.

- f) ***Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?***

***Less than Significant with Mitigation.*** The proposed Project would not involve excavation with the Monterey Formation or tar seeps, however, as noted above the site does have the potential to disturb cultural resources including cultural resource CA-SBA-06. The implementation of mitigation measures such as a Cultural Resources Management Plan and worker training for cultural resource awareness would be reduce the potential impact to less than significant.

### 3.8 Greenhouse Gas Emissions

- a) ***Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?***

***Less than Significant with Mitigation.*** The applicant submitted emissions calculations as part of the application package to the City (*Appendix E – Carp O&G Plant Decommissioning Emissions Calcs June 2021*). GHG emissions were estimated for each major Project phase to identify the peak 12-month period. Maximum annual emissions were associated with the option to dispose of offshore pipe at Port Hueneme instead of the Port of Long Beach estimated at 1,749 metric tons per year CO<sub>2</sub> equivalent. Thus, worst case annual average GHG emissions for the project are less than 20% of the SBCAPCD threshold of 10,000 metric tons per year CO<sub>2</sub> equivalent for a stationary source. However, the Santa Barbara County threshold for GHG emissions is 1,000 metric tons per year and the Project would exceed this threshold (the City would need to determine if it wants to adopt this threshold). Consistent with other projects, coordination with the City, the SBCAPCD, and the applicant could identify applicable mitigation measures such as a GHG mitigation plan or offsets to mitigate this impact. The GHG emissions for the Project would be short term temporary construction emissions and although the worst case annual emissions exceed the Santa Barbara County stationary source threshold, mitigation measures are available to mitigation GHG emissions, therefore, Project GHG emissions would be less than significant with mitigation.

**b) *Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?***

***Less than Significant with mitigation.*** As noted above, the proposed Project GHG emissions are short term construction emissions and worst case annual emissions are less than the SBCAPCD threshold for stationary sources. However, the projected GHG emissions would exceed Santa Barbara County thresholds. Although the City does not have its own thresholds, the City chooses to use the more stringent GHG threshold established by the County. Therefore, the proposed Project would conflict with the County's GHG regulations aimed at reducing GHG gases.

The Santa Barbara County Energy and Climate Action Plan (ECAP) identifies GHG Reduction Measures with goals to reduce GHG measures to various target percentages by year. Measure BE 10 is applicable to the proposed Project because it applies to the operation of the heavy construction equipment that would be used for decommissioning and remediation activities:

*Construction Equipment Operations (BE 10) Measure: Implement best management practices (BMPs) for construction equipment operation; examples of BMPs include reduced equipment idling, use of alternative fuels or electrification of equipment, and proper maintenance and labeling of equipment.*

The Project Description does not propose the use of electrically powered heavy construction equipment or alternative fuels as the use of such equipment is not widely available at this time. However, the proposed Project would include reduced equipment idling and properly maintained equipment and therefore would be consistent with the County ECAP. All fuels purchased as part of the Project would be covered by the Cap-and-Trade program and would therefore be covered by and comply with an applicable GHG policy.



### 3.9 Hazards and Hazardous Materials

- a) *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

***Less than Significant Impact with Mitigation.*** The proposed Project does not involve any development that would create the routine transport, use or disposal of any hazardous materials. The proposed Project would involve the excavation and transportation of contaminated soils. These soils would be handled and transported as described in the Project Description and Interim Remedial Action Plan to minimize public exposure, including dust suppression, sweeping of roadways to limit off-site migration of dust, soil sampling during excavation, segregation and stockpiling of soils considered hazardous, transportation in covered bins or truck beds, and disposal at an appropriate facility, based on contamination levels and constituents. Onshore facilities have been inventoried and sampled for the presence of asbestos and lead-based paint. Subsurface pipelines (contents and any coating materials) would be assessed for the presence of contaminated materials for waste characterization and removal planning purposes. Removal would be accomplished utilizing an excavator and/or hydro-excavation methods to safely excavate buried pipelines in consideration of other potential adjacent uses or lines, and the pipelines would be removed and cut into sections appropriate for hauling. If contaminated materials (i.e., asbestos) are present, the pipelines would be managed accordingly as directed by a certified hazardous materials oversight specialist.

The Project use of the heavy haul trucks on the City's roads, particularly Carpinteria Avenue and Dump Road, has the potential for impacts to the road surface which could cause future safety impacts for other road users. Potential impacts to the road surface can be mitigated with pre and post Project surveys of the road surface and applicant sponsored road repair if road damage is identified.

- b) *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

***Potentially Significant Impact.***

The proposed Project process of the removal of all existing surface and subsurface equipment, piping, and structures within the Oil and Gas Processing Plant has the potential to release hydrocarbons to the environment. The potential for such a release can be mitigated with the implementation of an oil spill contingency plan, however, a release of hydrocarbons to the ESHA area of the Carpinteria Bluffs from the removal of pipelines in sensitive resources has the potential to be a significant impact.

The pigging, flushing, and removal of the nearshore beach crossing and offshore areas out to the three mile State waters limit pipeline segments also have the potential to release hydrocarbons to the

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environment. Any release of hydrocarbons to these ESHA or marine areas would be a significant impact. The use of an anchoring plan can reduce the potential for impacts to the pipeline segments during offshore construction activities. An anchoring plan to avoid potential work boat anchor impacts to Project pipelines along with an oil spill contingency plan that could include response vessels located in the immediate area, would reduce the potential for a release of hydrocarbons to the ocean environment; however, any release would be considered significant, therefore, the potential release of hazardous materials to the environment would be a potentially significant impact.

The proposed Project site also contains oil and gas wells from previous operations as summarized in the table below that are not slated for plugging and abandonment or remediation as part of this Project.

Well Name	API	Status	Year Drilled
P.C. Higgins No. 1	0408304644	Idle with metal well vault cover.	1913
Carpinteria Community Well No. 1	0408304313	Idle with concrete, wood, and plastic tarp cover.	1924
Caitlin Fletcher No. 1	0408304297	Plugged dry hole.	1951
Thornbury-Community Well Number: 1	0428304313	Plugged dry hole.	Unknown
Thornbury-Community Well Number: 3	0408304315	Plugged dry hole.	1949
Nugent No. 1	0408304327	Plugged dry hole.	1925
Nugent No. 2	0408304328	Plugged dry hole.	1925

Source: Chevron Appendix I, Description of Facilities Not Include in Project Activities.

As noted in the table, the age of these wells indicate that it is likely that the plugging and abandonment of the wells was not performed to current CalGEM requirements. In addition, details and documentation on the plugging and abandonment of several of these wells is not available or unknown. Therefore, there is a potential of a release of hydrocarbons from one of these wells in the future and any release of hydrocarbons from one of these wells could be a significant impact to any future use or development at the Project location. Release of gas from these wells could cause public health impacts and would be a significant impact.

The applicant noted in the application submittal package that the wells are not part of the Project and are the responsibility of CalGEM. In addition, the agencies listed as required for review or permitting of the proposed Project contained in the application package does not include CalGEM. In order for the City to determine the Project site as suitable for a future land use, the potential impact to public health and safety related to the potential for leakage of gas or other hazardous substances to the surface from the wells must be assessed. Therefore, the City will seek correspondence and coordination with CalGEM to review the current status of the legacy wells on the Project site and develop a path forward for a final disposition of the wells that meets the needs of the City and protects the health and safety of the public.

Construction activities could encounter asbestos during the excavation and removal of pipelines. However, the use of an asbestos minimization plan and a certified hazardous materials oversight specialist would minimize the potential for a release of asbestos to the environment to less than significant.

- c) ***Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?***

**No Impact.** The proposed Project area and transportation route for the removal of project infrastructure and contaminated soils are not within one quarter mile of an existing or proposed school.

- d) ***Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?***

**No Impact.** The proposed Project site is not listed as a hazardous materials site pursuant to Government Code Section 65962.5 (DTSC, 2021).

- e) ***For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?***

**No Impact.** The proposed Project is not located with an airport land use plan nor within two miles of a public or public use airport.

- f) ***Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

**Less than Significant.** Ingress and egress to the proposed Project site is via Dump Road, which is also the access route to MSRC, the Carpinteria Oil and Gas Processing Facility, City of Carpinteria Tar Pits Park and open space areas, and the Casitas Pier employee parking lot. The additional traffic from the project will not significantly impact Dump Road's ability to function as an egress route for these land uses during an emergency. The Project will not interfere with any adopted evacuation or emergency response plan.

- g) ***Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?***

**No Impact.** The Project site is not located within or near a Very High Fire Hazard Severity Zone as designed by the California Department of Forestry and Fire Protection. In addition, the Project site is located within a low fire hazard area as defined within the City General Plan.

### 3.10 Hydrology and Water Quality

- a) ***Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?***

***Less than Significant.*** The proposed Project would include Remedial Action Plan and a Storm Water Pollution Prevention Plan (SWPPP). The controls and mitigation measures in these documents would minimize the potential for releases of diesel fuel, gasoline, coolant, hydraulic oil, and lubricants associated with the use of heavy construction equipment. Water associated with flushing or cleaning of facility infrastructure and any water encountered during excavation activities would be tested and disposed of in one of three ways:

- Discharged to surface waters under Regional Water Quality Control Board (RWCAQB) Waste Discharge Requirements for Discharges with Low Threat to Surface Waters where the effluent limitations are met;
- Discharged to the Carpinteria Sanitary District municipal wastewater collection system to be treated and discharged to the Pacific Ocean (via the existing outfall pipeline) under an existing NPDES permit; or,
- Trucked off-site to Buttonwillow (Clean Harbors) or Fontana (World Oil) as hazardous liquid waste (oily water).

The proposed Project would not be expected to impact waters of the Carpinteria Groundwater Basin aquifer because those aquifers are located too deep to be affected by Project excavations. Therefore, the proposed Project would not significantly impact water quality standards or waste discharge requirements.

- b) ***Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?***

***Less than Significant.*** The proposed Project water use would be limited to potable water used for dust control, soil compaction and site restoration. This water use is temporary and short term, the applicant has estimated this water use to a few thousand gallons per day. This short term and temporary water use would not be a significant impact to groundwater supplies or interfere with groundwater recharge.

- c) ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:***

- i) ***result in a substantial erosion or siltation on- or off-site?***

- ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?*
- iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*
- iv) impede or redirect flood flows?*

**Less than Significant with Mitigation.** The Project proposed to remediate impacted areas and grade the site to pre-project natural topography. The Project does not involve the installation of any impervious surfaces and would involve the removal of concrete and other impervious surfaces. An updated Project SWPPP would minimize erosion or siltation associated with storm water run-off. Excavated areas would be backfilled with clean soil and compacted to minimize potential future erosion. Therefore, the Project would not alter the existing drainage pattern, increase erosion, or stormwater runoff patterns.

- d) Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

**No Impact.** The proposed Project locations on the bluffs and landward are not located in a tsunami inundation hazard zone. The Project locations seaward of the bluffs are unlikely to be impacted by tsunami or floods, however, the proposed Project is to remove contaminated materials from the site, therefore, the potential for release of pollutants is not likely. In addition, the Project is short term and it is unlikely that a tsunami would occur during that time and impact the project site. If a tsunami were to impact the Project site after the Project has been completed, impacts would have been avoided since the contaminants would have been removed.

- e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

**Less than Significant.** As discussed above, Project-related storm water, pipeline flush water or other waters would be discharged under RWQCB or NPDES permitted methods with applicable waste discharge requirements. . The proposed Project does not involve any long term use of water; therefore, the Project would not conflict with a Water Quality Control Plan for the Central Coast Basin.

### 3.11 Land Use and Planning

- a) Would the project physically divide an established community?*

**No Impact.** The proposed Project includes demolition of oil and gas processing equipment and other structures onsite as well as remediation of contaminated soils. No structures are proposed, and the Project would not have the potential to divide an established community.



- b) ***Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?***

***Less than Significant with Mitigation.*** The proposed Project involves the demolition of oil and gas processing equipment and other structures onsite, the remediation of contaminated soils, and grading to return the Project area to pre-development natural topography. With the mitigation measures identified for cultural resources, hazards, and noise the proposed Project would have a less than significant impact on any land use plan, policy or regulation.

The applicant submitted a policy consistency summary analysis (Policy Consistency Analysis, October 2021) as part of the proposed Project application package. The analysis confirms consistency with California Coastal Commissions and City of Carpinteria land use documents.

### 3.12 Mineral Resources

- a) ***Would the project result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?***

***No Impact.*** The proposed Project does not involve the use of mineral resources or have the potential to impact the availability of any mineral resources.

- b) ***Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?***

***No Impact.*** The proposed Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

### 3.13 Noise

- a) ***Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?***

***Less than Significant with Mitigation.*** The applicant included a noise assessment (*Padre Associates Carpinteria Noise Management Plan, Behrens and Associates, Inc., June 7, 2021*) as part of the application package submittal. Ambient noise levels were measured at three different locations at the north, west and south property boundaries of the proposed Project site. Results of the ambient monitoring was also used to assign ambient noise levels for at seven different receptor locations. Noise modeling was then completed to estimate the peak day construction noise for maximum noise generating equipment at the Former Marketing Terminal Area, the nearest proposed work area to residential areas. The noise modeling also included the noise from heavy-duty trucks using Dump Road to export contaminated soil and import

clean fill. Results of the noise modeling was used to calculate the existing ambient noise levels plus proposed worst case Project construction noise levels for the seven offsite receptors. Results are shown in the table below.

Receptor Number	Location	Noise Levels dBA CNEL		
		Project Construction Impact	Ambient + Project	Increase over Ambient
R1	Holiday Inn	53.2	68.6	0.1
R2	5615 Carpinteria Multi Family Residential	52.6	68.6	0.1
R3	5585 Carpinteria Multi Family Residential	51.2	60.9	0.5
R4	Residence Arbol Verde Drive	52.7	61.1	0.7
R5	Residence Arbol Verde Drive	57.2	62.1	1.7
R6	Residence at Eastern Terminus of Calle Pacific	56.9	62.0	1.6
R7	Carpinteria Bluffs Trail	52.1	67.8	0.1

Source: Padre Associates Carpinteria Noise Management Plan, Behrens and Associates, Inc., June 7, 2021.

The table indicates the City's 75 dBA CNEL construction noise standard would not be exceeded. Further, construction Project-related noise increases would be less than 2 dBA over existing levels and would not exceed City thresholds for temporary construction noise. Nighttime construction activities may be necessary in the surf zone due to tidal access issues, however, these activities would be temporary and short term. The proposed Project does not involve a permanent noise source, therefore, generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project would be less than significant with the addition of mitigation measures to reduce noise.

**b) *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?***

***Less than Significant Impact.*** The applicant estimated vibration levels from a worst case construction/demolition activity of the operation of a large dozer at the MSRC Lease Area and the closest potential structure receptor, City Hall located approximately 95 feet to the south. The construction/demolition related vibration was estimated using methodology provided by the California Department of Transportation (2013), which indicates vibration (based on use of a large dozer) would generate a PPV of 0.016 inches/second, which would be barely perceptible to humans and would not cause any damage to structures. Therefore, vibration impacts would be less than significant.

**c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?***

***No Impact.*** The Project site is not located within two miles of an airport and is not subject to an airport land use plan. No increase in aviation-related noise would occur.

### 3.14 Population and Housing

- a) *Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

**No Impact.** The proposed Project does not involve any development of new homes, businesses, roads or other infrastructure. The Project would not induce any population growth.

- b) *Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

**No Impact.** The proposed Project would not displace people or housing.

### 3.15 Public Services

- a) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services, including: fire protection, police protection, schools, parks, or other public facilities?*

**No Impact.** The proposed Project involves removal of petroleum processing, storage and transportation facilities and related flammable materials, such that fire protection requirements would decrease at the site. New or altered fire protection facilities, police protection, schools, parks, or other public facilities are not included in the Project and would not be required to serve the site.

### 3.16 Recreation

- a) *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

**Less than Significant.** The proposed Project would not increase the use of any neighborhood parks, regional parks, or other recreational facilities. The Project would not change any access or use of Tar Pits Park of the Carpinteria Bluffs Trail. During offshore work activities the Project has the potential to impact recreational boating activities for several months due to the increase in work boat and barge use to remove the offshore pipeline sections. This use would be short term, temporary and limited to the immediate area near the pipeline routes, therefore, would not be a significant impact to offshore recreational boating activities.

- b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

**Less than Significant.** The proposed Project does not involve the development or expansion of recreational facilities or generate the need for additional recreational facilities. As noted above, the Project would not change any access or use of Tar Pits Park of the Carpinteria Bluffs Trail, however, Project activities have the potential for a short term interruption in trail use. However, the interruption in trail use would be short term and temporary and therefore less than significant.

### 3.17 Transportation

Senate Bill 743 (2013) required the Governor's Office of Planning and Research (OPR) to develop alternative methods of measuring transportation impacts under CEQA. At a minimum, the new methods must apply within areas that are served by transit. Once the new transportation guidelines are adopted, automobile delay (often referred to as Level of Service or LOS analysis) generally would no longer be considered to be an environmental impact under CEQA. The OPR added CEQA Guidelines Section 15064.3 which provided that, in most cases, vehicle miles travelled is the most appropriate measure of transportation impacts.

- a) Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities**

**Less than Significant:** The proposed Project does not involve any permanent change or increase in traffic or change to any circulation system or transit, roadway, bicycle, or pedestrian facility. The applicant included a traffic analysis for the proposed Project as part of the application submittal package (*Traffic, Parking and VMT Analysis, Associated Transportation Engineers, June 2021*). The traffic analysis estimated peak hour traffic increases at local intersections as provided in table below.

Intersection	Peak Hour LOS	Project Added Trips	Consistent Yes/No
A.M. Peak Hour			
U.S Highway 101 NB/Bailard Ave.	LOS C	6	Yes
U.S Highway 101 SB/Bailard Ave.	LOS B	6	Yes
Carpinteria Ave./Bailard Ave.	LOS B	6	Yes
Carpinteria Ave./Casitas Pass Rd.	LOS C	7	Yes
P.M. Peak Hour			
U.S Highway 101 NB/Bailard Ave.	LOS B	6	Yes
U.S Highway 101 SB/Bailard Ave.	LOS C	6	Yes
Carpinteria Ave./Bailard Ave.	LOS B	6	Yes
Carpinteria Ave./Casitas Pass Rd.	LOS C	7	Yes

Source: Traffic, Parking and VMT Analysis for the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities – City of Carpinteria, Associated Transportation Engineers, June 2021.

The traffic analysis also estimated the ADT, Average Daily Traffic, for the proposed Project trip generation as summarized in the table below.

Project Component	Number per Day	Shift Schedule	Trip Generation		
			ADT	AM Peak	PM Peak
Employees	15	7:00 am to 5:00 pm	26	13	13
Haul Trucks	16	9:00 am to 4:00 pm	32	0	0
Deliveries	2	9:00 am to 4:00 pm	4	0	0
Totals			62	13	13

Source: Traffic, Parking and VMT Analysis for the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities – City of Carpinteria, Associated Transportation Engineers, June 2021.

The addition of six to seven additional trips to intersections operating at Level B or C would not cause a change to the level of service at the intersections noted above and therefore would be consistent with the City's thresholds regarding LOS.

The proposed Project daily one-way trip total of 62 is also below the Office of Planning and Research (OPR) Technical Advisory for the evaluation of transportation impacts 110 one-way trips per day threshold. Therefore, the Project would not conflict with any transportation plan, policy or ordinance.

**b) *Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?***

***Less than Significant.***

CEQA Guidelines § 15064.3(b) generally requires that a project's transportation impacts be evaluated for CEQA purposes using vehicle miles traveled, however, as noted above projects that generate less than 110 on-way trips and is a construction, not an operational, project and therefore are not expected to cause as significant impact pursuant to CEQA guidelines.

**c) *Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?***

***Less than Significant with Mitigation.*** The traffic analysis prepared for the proposed Project analyzed intersection design, intersection operations, and intersection site distance. Although the traffic study did not identify any potential conflicts with haul truck use, any increase in traffic at the Carpinteria Avenue/Dump Road intersection could be significant and may require temporary traffic controls such as flaggers. The Project does not involve any incompatible uses such as farm equipment.

**d) *Would the project result in inadequate emergency access?***

**No Impact:** The proposed Project would not alter any existing emergency access road, Carpinteria Avenue would remain open during all Project activities.



### 3.18 Tribal Cultural Resources

- a) *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:*
- i) *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*

**Less than Significant with Mitigation.** The Cultural Resources Assessment identified archaeological resources at the Project site (cultural resource CA-SBA-06). The report details the resource as disturbed to heavily disturbed dependent on the location within the Project site. Given the presence of a cultural resource and the ground disturbing activities of the proposed Project, potential for impacts to previously undisturbed resources is possible without mitigation. Standard mitigation techniques for cultural resources such as a Cultural Resources Management Plan and worker training for cultural resource awareness would reduce the potential for impacts to archaeological resources to less than significant.

- ii) *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?*

**No Impact.** The City has not identified any tribal cultural resources beyond that identified by other agencies.

### 3.19 Utilities and Service Systems

The State CEQA Guidelines and Checklist have been amended for Utilities and Service Systems. The previous question a) was removed and questions b), c), h), and i) were consolidated. Question d) and f) were reworded. The modifications to the checklist resulted in fewer questions. Previous environmental review has been consolidated accordingly.

- a) *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

**No Impact.** The proposed Project does not involve the construction of any infrastructure.

- b) ***Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?***

***Less than Significant.*** The proposed Project water use would be limited to potable water used for dust control, soil compaction and site restoration. This water use is temporary and short term, the applicant has estimated this water use to a few thousand gallons per day. This short term and temporary water use would not be a significant impact to groundwater supplies or interfere with groundwater recharge.

- c) ***Would the project result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?***

**No Impact.** Workers employed at the Project site would use portable restrooms which would be emptied and transported to an appropriate sanitary district disposal facility by a commercial third party vendor.

- d) ***Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?***

***Less than Significant.*** The proposed Project would generate solid waste in the form of equipment and piping, concrete, asphalt, gravel and contaminated soil. Equipment, piping and related metal materials would be recycled at an appropriate facility. Concrete, asphalt and gravel would be recycled at State Ready Mix. Non-hazardous contaminated soils would be transported to the Simi Valley Landfill. Hazardous contaminated soils would be transported to the Kettleman or McKittrick disposal sites. These facilities have adequate capacity to receive Project-related solid waste and recycle these wastes to the extent feasible. Therefore, the proposed Project would not impact the attainment of any State-mandated solid waste reduction goals by the City or Santa Barbara County.

- e) ***Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?***

**No Impact.** The proposed Project would dispose of recovered materials at solid waste disposal facilities approved and permitted by the California Department of Resources Recycling and Recovery.

### 3.20 Wildfire

The State CEQA Guidelines were amended in July 2015 and the CEQA Checklist has been amended since the December 2013 Final MND was prepared to specifically include a separate section on wildfire impacts. Nonetheless, the potential for wildfires were addressed in the December 2013 Final MND under Hazards.

***If located in or near state responsibility areas or lands classified as very high fire hazard severity zones:***

- a) *Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*

**No Impact.** The proposed Project would not involve the closure of either public or private roadways, therefore, would not impact ingress or egress for emergency access and thus not impact an emergency response or evacuation plan.

- b) *Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

- c) *Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

- d) *Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

**No Impact.** The proposed Project site is not located within a designated High Fire Hazard Severity Zone as designed by the California Department of Forestry and Fire Protection. The City General Plan Seismic and Safety Element identifies the Project site as within a low fire hazard area. The beach and offshore Project site are not subject to wildfires. The Project does not involve any development of infrastructure that could increase the spread of a wildfire. The Project site does not include any steep slopes or major drainages that may cause downstream flooding, landslides, excessive run-off or post-fire slope instability in the event the Project site was affected by wildfire.

### 3.21 Mandatory Findings of Significance

- a) *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

As addressed throughout this Initial Study, the proposed Project would have no impact, a less-than-significant impact, a less-than-significant impact with mitigation incorporated, or a potentially significant impact as indicated for each issue area. Impact areas Agriculture/Forestry, Minerals, Public Services and Wildfire were found to have no potential impact. Potential impacts to Air Quality, Energy, Noise, Recreation, Transportation/Circulation, Utilities were found to be less than significant. Cultural Resources, Geology, Greenhouse Gases, Hydrology, Land Use and Tribal Resources were determined to be less than significant with mitigation.

Due to the potential for an oil spill or release of hydrocarbons from infrastructure demolition, flushing and pigging of pipelines, removal of pipelines or a release from one of the legacy onsite oil wells impacts to Biological Resources and Hazardous Materials was determined to be potentially significant. Mitigation

measures would reduce the potential for such an impact; however, the potential could still remain and the impact to the environment could be significant.

- b) *Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)*

The proposed Project is short term with temporary demolition and construction type activities over a project schedule of approximately three years. No other large construction projects are currently scheduled in the immediate Project area nor are any oil and gas remediation projects. Upon conclusion of the proposed Project the Project site would be remediated and graded back to a natural state with no development, a net benefit for the environment and community. Therefore, the proposed Project would not have a cumulatively considerable impact.

- c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

**Less than Significant.** While the potential impact to the environment from a release of hydrocarbons could have significant impacts, these potential impacts would not have a direct or indirect substantial adverse effect on human beings.

## **References**

- Associated Transportation Engineers, 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility – Traffic, Parking and VMT Analysis. June 2021.
- City of Carpinteria, 2021. Project Application for the Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility. October 2021.
- City of Carpinteria, 1994. Environmental Review Guidelines. January 1994.
- City of Carpinteria, 2003. General Plan/Local Coastal Land Use Plan & Environmental Impact Report. April 2003.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix B Summary of Remedial Action Plan. October 2021.
- Padre Associates Inc., 20231. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix C1 Part 1 Marine Biological Resources Study, June 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix C1 Part 2 Terrestrial Biological Resources Study. June 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix C2 Tree Report. June 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix C3 Preliminary Restoration/Vegetation Plan. June 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix C4 Essential Fish Habitat Assessment. October 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix C5 Carpinteria Harbor Seal Rookery Monitoring and Protection Plan. June 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix C6 Coastal Wetland Delineation Report. October 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix E Carp O&G Plant Decommissioning Emissions Calcs. June 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix F Cultural Resources Assessment. October 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix G Bluff Retreat Evaluation Report. June 2021.



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Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix H Noise Management Report. June 2021.

Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix I Description of Facilities not Included in Project Activities. October 2021.

Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix J Policy Consistency Analysis. October 2021.

Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Project Description. October 2021.

Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility - Volume III Initial Study. October 2021.

**CALIFORNIA COASTAL COMMISSION**

455 MARKET STREET, SUITE 300  
SAN FRANCISCO, CA 94105  
FAX (415) 904-5400  
TDD (415) 597-5885



August 15, 2022

Steve Goggia  
Director  
Community Development  
City of Carpinteria  
5775 Carpinteria Avenue  
Carpinteria, CA 93013

Re: Chevron Carpinteria Oil and Gas Facility Decommissioning Initial Study (IS)

Dear Mr. Goggia:

Commission staff appreciates the opportunity to review and provide comment on the draft IS for the Chevron Carpinteria Oil and Gas Facility decommissioning, posted on August 1 and available for comment through September 1. The proposed project would include demolition and removal of surface and subsurface facilities and subsequent remediation of impacted soils, occupying 64.28 acres of land. A coastal development permit (CDP) would be required from the City of Carpinteria (City) for those portions of the project located onshore and within the City's local coastal program jurisdiction while a separate CDP would be required from the California Coastal Commission (Commission) for project components located offshore below the Mean High Tide Line (MHTL). Because a portion of the project is within the Commission's retained jurisdiction the project could also be processed as a consolidated CDP should the applicant, the City and the Commission all consent to consolidation.

As stated in Section 3.0 of the draft IS the determination is that the project may have a significant effect on the environment, and an environmental impact report (EIR) is required. Commission staff support the City's determination that an EIR is required and we look forward to coordinating with the City on the development of the EIR and the CDP process.

Please contact Wesley Horn at [Wesley.Horn@coastal.ca.gov](mailto:Wesley.Horn@coastal.ca.gov) if you have any questions regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'W. Horn'.

Wesley Horn  
Environmental Scientist



State of California – Natural Resources Agency  
 DEPARTMENT OF FISH AND WILDLIFE  
 South Coast Region  
 3883 Ruffin Road  
 San Diego, CA 92123  
 (858) 467-4201  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

GAVIN NEWSOM, Governor  
 CHARLTON H. BONHAM, Director



August 30, 2022

Steve Goggia  
 Community Development Director  
 City of Carpinteria  
 5775 Carpinteria Avenue  
 Carpinteria, CA 93013  
[SteveG@carpinteriaca.gov](mailto:SteveG@carpinteriaca.gov)

**Subject: Comments on the Notice of Preparation of a Draft Program Environmental Impact Report for the Decommissioning and Remediation of the Chevron Carpinteria Oil and Gas Processing Facility Project #2128, SCH #2022080026, Santa Barbara County**

Dear Steve Goggia:

The California Department of Fish and Wildlife (CDFW) has reviewed the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the Decommissioning and Remediation of the Chevron Carpinteria Oil and Gas Processing Facility Project #2128 (Project). The City of Carpinteria (City) is the lead agency preparing a DEIR pursuant to the California Environmental Quality Act (CEQA; Pub. Resources Code, § 15082 et. seq.) with the purpose of informing decision-makers and the public regarding potential environmental effects related to the Project.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

### **CDFW's Role**

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State [Fish & Game Code, §§ 711.7, subdivision (a) & 1802; Public Resources Code, § 21070; California Environmental Quality Act (CEQA) Guidelines, § 15386, subdivision (a)]. CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect state fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA (Public Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code, including lake and streambed alteration regulatory authority (Fish & Game Code, § 1600 et seq.). Likewise, to the extent

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implementation of the Project as proposed may result in “take” (see Fish & Game Code, § 2050) of any species protected under the California Endangered Species Act (CESA; Fish & Game Code, § 2050 *et seq.*) or the Native Plant Protection Act (NPPA; Fish & Game Code, § 1900 *et seq.*), CDFW recommends the Project proponent obtain appropriate authorization under the Fish and Game Code.

**Project Location:** Access to the Project site is from U.S. Highway 101 to Bailard Avenue and west onto Carpinteria Avenue to Dump Road. The site is bisected by Dump Road from west to east, and by the Union Pacific Railroad from north to south. The eastern portion of the Project site remains mainly developed by oil and gas processing equipment. The western portion of the site is primarily open space. The southern third of the site is open space along the bluffs with two large parking areas available for the Casitas Pier operations.

Surrounding land uses include the Carpinteria City Hall, Carpinteria Avenue, and U.S. Highway 101 to the north, the Pacific Ocean to the south, the Concha Loma single-family residential neighborhood to the west, and a public golf driving range, agriculture, and open space to the east.

**Project Description/Objectives:** The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of impacted soils at the onshore Carpinteria Oil and Gas Processing Facility to accommodate the site's potential future redevelopment. Remediation is targeted to the most stringent clean up levels as determined by the Santa Barbara County Public Health Department, Environmental Health Services Department, Regional Water Quality Control Board, and U.S. Environmental Protection Agency, while preserving existing site resources, including mature trees and bluffs, and buffer zones adjacent to the railroad right-of-way. Tier 1 Environmental Screening Levels for residential uses are being used as the standard for on-site soil remediation, consistent with Chevron's clean up objectives. Project objectives include:

#### **Onshore**

- Idling and removal of all existing surface and subsurface equipment, piping, and structures within the Oil and Gas Processing Plant;
- Removal of concrete foundations, asphalt, oil spray and road base;
- Excavation/remediation of any impacted soil;
- Recycling/disposal of all materials removed from the Project site(s); and
- Site restoration.

#### **Beach Crossing and Offshore Pipelines (State Waters)**

- Pig and flush pipelines in preparation for removal;
- Removal of offshore Project pipeline segments out to 3-mile State waters limit;
- Potential nighttime activities in surf zone due to tidal restrictions;
- Removal of nearshore beach crossing pipeline segments;
- Recycling/disposal of all materials removed from the Project site(s); and,
- Site restoration.

Based on the proposed Project application package, the Project is expected to require 670 days over a three-year period.

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## COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

### Marine Comments

#### Sensitive Marine Habitats

According to the Project's Marine Biological Resources Report (Report), the following sensitive marine habitats occur or may occur in the Project area: rocky reefs, kelp forest, eelgrass (*Zostera* spp.) beds, and surf grass (*Phyllospadix* spp.) beds. These habitats have been designated as habitat areas of particular concern (HAPC) within the Pacific Coast Groundfish Fishery Management Plan under the Magnuson-Stevens Fishery Conservation and Management Act. HAPC, a subset of Essential Fish Habitat, are habitats of special importance to fish populations due to their rarity, vulnerability to development and anthropogenic degradation, and/or ability to provide key ecological functions. Eelgrass is further protected under state and federal "no-net-loss" policies for wetland habitats. Additionally, the importance of eelgrass protection and restoration as well as the ecological benefits of eelgrass are identified in the California Public Resources Code, section 35630.

In-water Project activities may impact sensitive marine habitats. Kelp or surf grass attached to the pipelines would be directly affected by pipeline removal. Similarly, in sections where the pipelines are buried, eelgrass growing in those sediments would likely be uprooted as the pipelines are excavated. The resuspension and distribution of sediments by underwater excavation methods such as jetting may also impact sensitive marine habitats via direct burial/smothering, increased turbidity, and/or decreased light availability.

CDFW agrees with the Report that further study is needed to determine whether eelgrass is present near the Project area. CDFW recommends conducting eelgrass surveys in accordance with the California Eelgrass Mitigation Policy (NMFS 2014) and in consultation with the National Marine Fisheries Service. Further study is also needed to determine if kelp, eelgrass, or surf grass are growing on or above the pipelines. The DEIR should document these findings as well as all sensitive marine habitats within the Project area. Project activities should avoid sensitive marine habitats to the greatest extent possible. If these habitats cannot be avoided, the DEIR should include appropriate mitigation measures.

#### Sensitive Marine Species Surveys and Monitoring

CDFW agrees with the Report that California grunion (*Leuresthes tenuis*) may occur seasonally within the Project area. California grunion are endemic to California and Baja California and support a culturally important recreational fishery. Grunion are known to regularly spawn on several nearby beaches during the spawning season (March–August). Project activities occurring below the highest tide line (e.g., sand moving, use of heavy equipment) during this timeframe may disturb or bury incubating grunion eggs and larvae. In-water activities in the surf zone/nearshore that generate high underwater sound levels or turbidity may also deter grunion from spawning.



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Project activities on the beach (below the highest tide line) and in the surf zone during March–August should be avoided to the greatest extent feasible. If work during this time cannot be avoided, the DEIR should provide measures to mitigate for the Project’s potential impacts on California grunion. CDFW recommends that a qualified biological observer monitor the work site prior to the start of activities in the intertidal zone during the previous forecast grunion run period (3–4 nights in a row). If grunion is observed at the work site, the Project should suspend activities below the highest tide line for at least two weeks to allow grunion eggs to incubate and hatch out. The expected run schedule and further information about grunion can be found on CDFW’s website: <https://wildlife.ca.gov/Fishing/Ocean/Grunion>.

The Report also identifies black abalone (*Haliotis cracherodii*) and white abalone (*Haliotis sorenseni*) as special-status species that may occur in the Project area. There is some probability that abalone could be found on the pipelines themselves in unburied sections. For this reason, CDFW recommends conducting abalone surveys on the unburied sections of pipeline prior to removal under consultation with the National Marine Fisheries Service. The DEIR should consider the potential impacts to abalone that may be found on the pipelines and include appropriate mitigation measures.

### **Underwater Noise**

Some Project activities, such as jack hammering and cutting of the pipelines, may generate underwater noise (e.g., high underwater sound levels) that is harmful to marine mammals and/or fish. For assessing impacts of underwater noise on fish, CDFW relies on guidance from the Fisheries Hydroacoustic Working Group to set safe sound pressure level (SPL) criteria (FHWG 2008). The criteria include a peak SPL of 206 decibels and a cumulative sound exposure (SEL) level of 187 decibels for fish two grams and heavier or a cumulative SEL of 183 decibels for fish lighter than two grams. While these criteria were developed for pile driving, they are applicable to any noise-producing underwater activity.

The DEIR should discuss potential impacts to marine mammals and fish from underwater noise-producing activities and include an analysis of anticipated underwater sound levels for these activities. If activities will generate high underwater sound levels, CDFW recommends using a “soft-start” technique for these activities so that any marine mammals or fish present may vacate the area before injury occurs. CDFW appreciates AMM 3 (Marine Wildlife Contingency Plan Implementation), which includes the presence of a Marine Wildlife Monitor during Project activities offshore and on the beach and looks forward to reviewing this document once it is available. CDFW recommends that the Marine Wildlife Contingency Plan include exclusion zones for marine mammals, which should be developed in consultation with the National Marine Fisheries Service and CDFW.

### **Oil Spill Response**

CDFW appreciates the inclusion of AMM 6 (Oil Spill Response and Contingency Plan Implementation) and recommends coordinating closely with CDFW’s Office of Spill Prevention and Response (OSPR) while developing this plan.

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## Marine Life on Pipelines

CDFW expects that a variety of marine life is currently growing on or attached to the pipelines proposed for removal. These organisms may include, but are not limited to, mussels, barnacles, hydroids, surf grass, kelp, and other marine algae. The DEIR should explain in detail what the Project plans to do with the marine life attached to the pipelines; for instance, if organisms will be removed, how and where they will be removed, etc. Special consideration should be given to special-status species, such as black abalone, and what mitigation measures may be required. CDFW recommends that the Project proponent consult with CDFW on what authorizations may be required for the removal of species attached to the pipelines.

## Terrestrial Comments

CDFW uses natural communities, as found in the online version of the Manual of California Vegetation (2022), to track vegetation communities of California as well as their rarity. Many of the alliances listed in the NOP were not able to be verified in either the current Manual of California Vegetation 2022 (online version) or the CDFW list of natural community alliances and associations list (links provided below). CDFW is unable to verify the rarity ranking or determine if these natural communities (alliances/association) are Sensitive Natural Communities without the proper nomenclature. Alliances and associations are continuously updated; as such, the book version published in 2009 should no longer be solely relied on as accurate.

Section 3.4 (b) of the NOP lists several alliances without any ranking, and some alliances whose names CDFW could not verify as currently existing alliances/associations. Of the alliances listed in the NOP, CDFW has designated the following Manual of California Vegetation (2022 version; MCV) alliances and associations as Sensitive Natural Communities.

Alliance Listed in NOP	Ranking	Issue
Platanus racemosa – Quercus agrifolia Alliance	S3	This alliance is considered rare by CDFW. The NOP should include this ranking information.
Artemisia californica shrubland alliance/California sagebrush scrub	Not a recognized alliance	This appears to be an older alliance name that is no longer used. The NOP should use current nomenclature for natural communities to allow CDFW to assess the rarity ranking of the habitat.
Atriplex lentiformis alliance	S4 - CEQA locally rare	CDFW considers this alliance locally rare in Carpinteria and coastal Santa Barbara County due to high levels of loss.
Baccharis pilularis alliance	S5 - CEQA locally rare	CDFW considers this alliance locally rare in Carpinteria and coastal Santa Barbara County due to high levels of loss.
Isocoma menziesii alliance	S3	This alliance is considered rare by CDFW. The NOP should include this ranking information.

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"Heteromeles arbutifolia shrubland alliance" and "toyon chaparral"	Not a recognized alliance	The NOP should update to currently recognized nomenclature. The Heteromeles arbutifolia (Provisional Association 37.912.01) might be a good fit, and this alliance has been given a rare rank and should be considered a sensitive natural community. CDFW is not clear if this was the association found onsite as the naming is unclear.
Rhus integrifolia Shrubland Alliance	S3	This alliance is considered rare by CDFW. The NOP should include this ranking information.
"Sambucus nigra alliance"	Not a recognized alliance	The NOP should update to currently recognized nomenclature. The Sambucus nigra association (63.410.01) might be a good fit, and this alliance is listed as rare. CDFW is not clear if this was the association found onsite as the naming is unclear.

CDFW recommends re-assessing the natural communities on-site using current MCV online (2022) nomenclature. CDFW recommends avoiding all sensitive natural communities. The complete list of alliances/associations can be found here <https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities> or here: <https://vegetation.cnps.org/search?>

### General Comments

- 1) California Endangered Species Act (CESA). Project-related activities may adversely impact potential habitat for this species. CDFW considers adverse impacts to a species protected by CESA to be significant without mitigation under CEQA. As to CESA, take of any endangered, threatened, candidate species, or State-listed rare plant species that results from the Project is prohibited, except as authorized by State law (Fish and Game Code, §§ 2080, 2085; Cal. Code Regs., tit. 14, §786.9). Consequently, if the Project, Project construction, or any Project-related activity during the life of the Project will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, CDFW recommends that the Project proponent seek appropriate take authorization under CESA prior to implementing the Project. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP) or a consistency determination in certain circumstances, among other options [Fish & Game Code, §§ 2080.1, 2081, subds. (b) and (c)]. Early consultation is encouraged, as significant modification to a Project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an ITP unless the Project CEQA document addresses all Project impacts to CESA-listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA ITP.

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- 2) Fully Protected Species. CDFW cannot authorize the take of any fully protected species as defined by State law. State fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for its take except for collecting those species for necessary scientific research and relocation of the bird species for protection of livestock (Fish & G. Code, §§ 3511, 4700, 5050, 5515). Take of any species designated as fully protected under the Fish and Game Code is prohibited.
  
- 3) Project Description and Alternatives. To enable CDFW to adequately review and comment on the proposed Project from the standpoint of the protection of plants, fish, and wildlife, we recommend the following information be included in the DEIR:
  - a) A complete discussion of the purpose and need for, and description of, the proposed Project, including all staging areas and access routes to the construction and staging areas; and,
  - b) A range of feasible alternatives to Project component location and design features to ensure that alternatives to the proposed Project are fully considered and evaluated. The alternatives should avoid or otherwise minimize direct and indirect impacts to sensitive biological resources and wildlife movement areas.
  
- 4) Lake and Streambed Alteration (LSA) Agreements. As a Responsible Agency under CEQA, CDFW has authority over activities in streams and/or lakes that will divert or obstruct the natural flow; or change the bed, channel, or bank (including vegetation associated with the stream or lake) of a river or stream; or use material from a streambed. For any such activities, the project applicant (or "entity") must provide written notification to CDFW pursuant to section 1600 *et seq.* of the Fish and Game Code. Based on this notification and other information, CDFW determines whether a LSA Agreement with the applicant is required prior to conducting the proposed activities. CDFW's issuance of an LSA Agreement for a project that is subject to CEQA will require related environmental compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the CEQA document prepared by the local jurisdiction (Lead Agency) for the Project. To minimize additional requirements by CDFW pursuant to section 1600 *et seq.* and/or under CEQA, the DEIR should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA Agreement<sup>1</sup>.
  - a) The Project area supports aquatic, riparian, and wetland habitats; therefore, a preliminary jurisdictional delineation of the streams and their associated riparian habitats should be included in the DEIR. The delineation should be conducted pursuant to the U. S. Fish and Wildlife Service (USFWS) wetland definition adopted by the CDFW (Cowardian, 1970). Some wetland and riparian habitats subject to CDFW's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers' section 404 permit and Regional Water Quality Control Board section 401 Certification.
  - b) In areas of the Project site which may support ephemeral streams, herbaceous vegetation, woody vegetation, and woodlands also serve to protect the integrity of

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<sup>1</sup> A notification package for a LSA may be obtained by accessing the CDFW's web site at [www.wildlife.ca.gov/habcon/1600](http://www.wildlife.ca.gov/habcon/1600).

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ephemeral channels and help maintain natural sedimentation processes; therefore, CDFW recommends effective setbacks be established to maintain appropriately-sized vegetated buffer areas adjoining ephemeral drainages.

- c) Project-related changes in drainage patterns, runoff, and sedimentation should be included and evaluated in the DEIR.
- 5) Wetlands Resources. CDFW, as described in Fish and Game Code section 703(a), is guided by the Fish and Game Commission's policies. The Wetlands Resources policy (<http://www.fgc.ca.gov/policy/>) of the Fish and Game Commission "...seek[s] to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California. Further, it is the policy of the Fish and Game Commission to strongly discourage development in or conversion of wetlands. It opposes, consistent with its legal authority, any development or conversion that would result in a reduction of wetland acreage or wetland habitat values. To that end, the Commission opposes wetland development proposals unless, at a minimum, project mitigation assures there will be 'no net loss' of either wetland habitat values or acreage. The Commission strongly prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values."
- a) The Wetlands Resources policy provides a framework for maintaining wetland resources and establishes mitigation guidance. CDFW encourages avoidance of wetland resources as a primary mitigation measure and discourages the development or type conversion of wetlands to uplands. CDFW encourages activities that would avoid the reduction of wetland acreage, function, or habitat values. Once avoidance and minimization measures have been exhausted, the Project must include mitigation measures to assure a "no net loss" of either wetland habitat values, or acreage, for unavoidable impacts to wetland resources. Conversions include, but are not limited to, conversion to subsurface drains, placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether ephemeral, intermittent, or perennial, should be retained and provided with substantial setbacks, which preserve the riparian and aquatic values and functions for the benefit to on-site and off-site wildlife populations. CDFW recommends mitigation measures to compensate for unavoidable impacts be included in the DEIR and these measures should compensate for the loss of function and value.
  - b) The Fish and Game Commission's Water policy guides CDFW on the quantity and quality of the waters of this state that should be apportioned and maintained respectively so as to produce and sustain maximum numbers of fish and wildlife; to provide maximum protection and enhancement of fish and wildlife and their habitat; encourage and support programs to maintain or restore a high quality of the waters of this state; prevent the degradation thereof caused by pollution and contamination; and, endeavor to keep as much water as possible open and accessible to the public for the use and enjoyment of fish and wildlife. CDFW recommends avoidance of water practices and structures that use excessive amounts of water, and minimization of impacts that negatively affect water quality, to the extent feasible (Fish & Game Code, § 5650).
- 6) Biological Baseline Assessment. To provide a complete assessment of the flora and fauna within and adjacent to the project area, with particular emphasis upon identifying



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endangered, threatened, sensitive, regionally and locally unique species, and sensitive habitats, the DEIR should include the following information:

- a) Information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis on resources that are rare or unique to the region [CEQA Guidelines, § 15125(c)];
- b) A thorough, recent, floristic-based assessment of special status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (see <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline>). Anyone who collects scientific plant specimens of state-listed species, or who may encounter a state-listed species that needs to be identified during field surveys should have a plant voucher collection permit (see <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=44384&inline>);
- c) Floristic, alliance- and/or association-based mapping and vegetation impact assessments conducted at the Project site and within the neighboring vicinity. *The Manual of California Vegetation* online edition should also be used to inform this mapping and assessment (<https://vegetation.cnps.org/search?>). Adjoining habitat areas should be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions;
- d) A complete, recent, assessment of the biological resources associated with each habitat type on site and within adjacent areas that could also be affected by the project. CDFW's California Natural Diversity Data Base (CNDDDB) in Sacramento should be contacted to obtain current information on any previously reported sensitive species and habitat. CDFW recommends that CNDDDB Field Survey Forms be completed and submitted to CNDDDB to document survey results. Online forms can be obtained and submitted at [http://www.dfg.ca.gov/biogeodata/cnddb/submitting\\_data\\_to\\_cnddb.asp](http://www.dfg.ca.gov/biogeodata/cnddb/submitting_data_to_cnddb.asp);
- e) A complete, recent, assessment of rare, threatened, and endangered, and other sensitive species on site and within the area of potential effect, including California SSC and California Fully Protected Species (Fish & Game Code, §§ 3511, 4700, 5050 and 5515). Species to be addressed should include all those which meet the CEQA definition of endangered, rare or threatened species (CEQA Guidelines, § 15380). Seasonal variations in use of the project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the USFWS; and,
- f) A recent, wildlife and rare plant survey. CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of two years, in non-drought conditions. Some aspects of the proposed project may warrant periodic updated surveys for certain sensitive taxa, particularly if build out could occur over a protracted time frame, or in phases.

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- 7) Biological Direct, Indirect, and Cumulative Impacts. To provide a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, the following should be addressed in the DEIR:
- a) A discussion of potential adverse impacts from lighting, noise, human activity, exotic species, and drainage. The latter subject should address Project-related changes on drainage patterns and downstream of the project site; the volume, velocity, and frequency of existing and post-Project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and, post-Project fate of runoff from the project site. The discussion should also address the proximity of the extraction activities to the water table, whether dewatering would be necessary and the potential resulting impacts on the habitat (if any) supported by the groundwater. Mitigation measures proposed to alleviate such Project impacts should be included;
  - b) A discussion regarding indirect Project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands (e.g., preserve lands associated with a Natural Community Conservation Plan (NCCP, Fish & Game Code, § 2800 et. seq.). Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated in the DEIR;
  - c) An analysis of impacts from land use designations and zoning located nearby or adjacent to natural areas that may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the DEIR; and,
  - d) A cumulative effects analysis, as described under CEQA Guidelines section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.
- 8) Avoidance, Minimization, and Mitigation for Sensitive Plants. The DEIR should include measures to fully avoid and otherwise protect sensitive plant communities from Project-related direct and indirect impacts. CDFW considers these communities to be imperiled habitats having both local and regional significance. Plant communities, alliances, and associations with a statewide ranking of S-1, S-2, S-3 and S-4 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by querying the CNDDDB and are included in MCV.
- 9) Compensatory Mitigation. The DEIR should include mitigation measures for adverse Project-related impacts to sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance and reduction of Project impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed. Areas proposed as mitigation lands should be protected in perpetuity with a conservation easement, financial assurance and

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dedicated to a qualified entity for long-term management and monitoring. Under Government Code section 65967, the lead agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves.

- 10) Long-Term Management of Mitigation Lands. For proposed preservation and/or restoration, the DEIR should include measures to protect the targeted habitat values from direct and indirect negative impacts in perpetuity. The objective should be to offset the Project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include (but are not limited to) restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, and increased human intrusion. An appropriate non-wasting endowment should be set aside to provide for long-term management of mitigation lands.
- 11) Nesting Birds. CDFW recommends that measures be taken to avoid Project impacts to nesting birds. Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Title 50, § 10.13, Code of Federal Regulations). Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). Proposed Project activities including (but not limited to) staging and disturbances to native and nonnative vegetation, structures, and substrates should occur outside of the avian breeding season which generally runs from February 1 through September 1 (as early as January 1 for some raptors) to avoid take of birds or their eggs. If avoidance of the avian breeding season is not feasible, CDFW recommends surveys by a qualified biologist with experience in conducting breeding bird surveys to detect protected native birds occurring in suitable nesting habitat that is to be disturbed and (as access to adjacent areas allows) any other such habitat within 300-feet of the disturbance area (within 500-feet for raptors). Project personnel, including all contractors working on site, should be instructed on the sensitivity of the area. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.
- 12) Translocation/Salvage of Plants and Animal Species. Translocation and transplantation is the process of moving an individual from the Project site and permanently moving it to a new location. CDFW generally does not support the use of translocation or transplantation as the primary mitigation strategy for unavoidable impacts to rare, threatened, or endangered plant or animal species. Studies have shown that these efforts are experimental and the outcome unreliable. CDFW has found that permanent preservation and management of habitat capable of supporting these species is often a more effective long-term strategy for conserving sensitive plants and animals and their habitats.
- 13) Moving out of Harm's Way. The proposed Project is anticipated to result in clearing of natural habitats that support many species of indigenous wildlife. To avoid direct mortality, we recommend that a qualified biological monitor approved by CDFW be on-site prior to and during ground and habitat disturbing activities to move out of harm's way special status species or other wildlife of low mobility that would be injured or killed by grubbing or Project-related construction activities. It should be noted that the temporary relocation of on-site wildlife does not constitute effective mitigation for the purposes of offsetting project impacts

Steve Goggia  
Community Development Director  
City of Carpinteria  
August 30, 2022  
Page 12 of 13

associated with habitat loss. If the project requires species to be removed, disturbed, or otherwise handled, we recommend that the DEIR clearly identify that the designated entity shall obtain all appropriate state and federal permits.

- 14) Revegetation/Restoration Plan. Plans for restoration and re-vegetation should be prepared by persons with expertise in southern California ecosystems and native plant restoration techniques. Plans should identify the assumptions used to develop the proposed restoration strategy. Each plan should include, at a minimum: (a) the location of restoration sites and assessment of appropriate reference sites; (b) the plant species to be used, sources of local propagules, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) a local seed and cuttings and planting schedule; (e) a description of the irrigation methodology; (f) measures to control non-native vegetation on site; (g) specific, measurable success criteria; (h) a detailed qualitative monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. Monitoring of restoration areas should extend across a sufficient time frame to ensure that the new habitat is established, self-sustaining, and capable of surviving drought. Monitoring should demonstrate a positive trend for native species cover, diversity, and abundance, and a negative trend for non-native species cover with no further manipulation of the site occurring during this period. If manipulation of the site is still occurring (replacing dead plants, irrigation, weeding) then this is still considered the installation period and should not be used as monitoring data to determine success. The monitoring period should start after the installation period has been completed and the site is not being actively manipulated, as manipulation of the site skews any data collection toward prematurely meeting success criteria that might not have been met had the site been left alone.
- a) CDFW recommends that local on-site propagules from the Project area and nearby vicinity be collected and used for restoration purposes. On-site seed collection should be initiated in the near future to accumulate sufficient propagule material for subsequent use in future years. On-site vegetation mapping at the alliance and/or association level should be used to develop appropriate restoration goals and local plant palettes. Reference areas should be identified to help guide restoration efforts. Specific restoration plans should be developed for various Project components as appropriate.
  - b) Restoration objectives should include providing special habitat elements where feasible to benefit key wildlife species. These physical and biological features can include (for example) retention of woody material, logs, snags, rocks and brush piles (see Mayer and Laudenslayer, 1988).

## CONCLUSION

CDFW appreciates the opportunity to comment on the NOP to assist the City in identifying and mitigating Project impacts on biological resources. If you have any questions or comments regarding this letter, please contact Kelly Schmoker, Senior Environmental Scientist, at (626) 848-8382 or by email at [Kelly.Schmoker@wildlife.ca.gov](mailto:Kelly.Schmoker@wildlife.ca.gov).

Steve Goggia  
Community Development Director  
City of Carpinteria  
August 30, 2022  
Page 13 of 13

Sincerely,

DocuSigned by:

  
B6E58CFE24724F5...

Erinn Wilson-Olgin  
Environmental Program Manager I  
South Coast Region

cc: CDFW

Steve Gibson, Los Alamitos – [Steve.Gibson@wildlife.ca.gov](mailto:Steve.Gibson@wildlife.ca.gov)  
Sarah Rains, Los Alamitos – [Sarah.Rains@wildlife.ca.gov](mailto:Sarah.Rains@wildlife.ca.gov)  
Amanda Canepa, Marine Region – [Amanda.Canepa@wildlife.ca.gov](mailto:Amanda.Canepa@wildlife.ca.gov)  
Eric Wilkins, Marine Region – [Eric.Wilkins@wildlife.ca.gov](mailto:Eric.Wilkins@wildlife.ca.gov)  
Cindy Hailey, San Diego – [Cindy.Hailey@wildlife.ca.gov](mailto:Cindy.Hailey@wildlife.ca.gov)  
CEQA Program Coordinator, Sacramento – [CEQACommentLetters@wildlife.ca.gov](mailto:CEQACommentLetters@wildlife.ca.gov)  
Office of Planning and Research  
State Clearinghouse, Sacramento – [State.Clearinghouse@opr.ca.gov](mailto:State.Clearinghouse@opr.ca.gov)

## References

[FHWG] Fisheries Hydroacoustic Working Group. 2008. Interim Criteria for Injury of Fish Exposed to Pile Driving Operations: Memorandum. Washington: Federal Highway Administration. Available from: <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/ser/bio-fhwg-criteria-agree-a11y.pdf>.

[NMFS] National Marine Fisheries Service. 2014. California Eelgrass Mitigation Policy and Implementing Guidelines. NOAA Fisheries West Coast Region (October 2014). Available from: [https://media.fisheries.noaa.gov/dam-migration/cemp\\_oct\\_2014\\_final.pdf](https://media.fisheries.noaa.gov/dam-migration/cemp_oct_2014_final.pdf)

[NMFS] National Marine Fisheries Service. 2014. California Eelgrass Mitigation Policy and Implementing Guidelines. NOAA Fisheries West Coast Region (October 2014). Available from: [https://media.fisheries.noaa.gov/dam-migration/cemp\\_oct\\_2014\\_final.pdf](https://media.fisheries.noaa.gov/dam-migration/cemp_oct_2014_final.pdf).

Sawyer, J. O., Keeler-Wolf, T., and Evens J.M. 2022. A manual of California Vegetation online version, accessed at <https://vegetation.cnps.org/>





**Rebecca Trujillo**  
Regulatory Affairs Manager  
West Coast Decommissioning Program

September 27, 2022

Mr. Steve Goggia  
Community Development Director  
City of Carpinteria  
5775 Carpinteria Ave  
Carpinteria, CA 93013

**RE: Chevron U.S.A. Inc. Comment to Notice of Preparation for the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities  
Project No. 21-2128-DP/CDP  
5675 and 5663 Carpinteria Avenue (APNs 101-170-003, -004, -014, -021, -022, and -023)**

Dear Mr. Goggia:

Thank you again for your consideration of our application. Chevron appreciates the opportunity to provide comments on the City's Initial Study and Notice of Preparation of a Draft Environmental Impact Report sent to the State Clearinghouse in the Governor's Office of Planning and Research posted on August 1, 2022.

Chevron has reviewed the City's Initial Study prepared in compliance with the California Environmental Quality Act (CEQA), and supports the City's recommendation to prepare an Environmental Impact Report (EIR) to support further CEQA review. Chevron requests that the City consider the following points and clarifications regarding the scope and content of the EIR for the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities, Project No. 21-2128-DP/CDP (Project):

- **Project Acreage**

- The Chevron property encompasses the APNs referenced above, including APNs 101-170-003, -004, -014, -021, -022, and -023. The Operational Project Areas within the site, however, are limited to the ~55 acres within APNs 101-170-004, -014, -021, -022, and -023.
- The City's Initial Study identifies APN 101-170-003 as part of the Project Site, increasing the Project Site to ~64.28 acres.<sup>1</sup> To be clear, APN 101-170-003 is not part of the Project Site and will not be affected by Project activities.
- Chevron requests that the EIR clarify that the Project Site, in which Project activities will take place, consists only of the Operational Project Areas within Chevron's property (~55 acres within APNs 101-170-004, -014, -021, -022, and -023).

- **Referenced Soil Remediation Targets**

- As specified in Chevron's October 2021 project application, the goal is to remediate the Project Site to an unrestricted, residential level that would allow for a broad range of future reuse opportunities. The specific remediation targets necessary to allow for future redevelopment on the Project Site will be established via consultation with the appropriate regulatory agencies.
  - Chevron's project application explains that: "The unrestricted land use cleanup goals (Soil Cleanup Goals) are conservative and used to develop an anticipated upper threshold for Project specific characteristics of expected soil volume and ancillary factors for traffic/truck

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<sup>1</sup> 2.3 Environmental Setting, p. 8<sup>2</sup> Project Description, p. 6-6

trips and potential air emission impacts. Actual cleanup levels will be developed in consultation with the appropriate regulatory agency and will/may/could differ from those presented here.”<sup>2</sup>

- The City’s Initial Study categorizes Chevron’s objective as achieving Tier 1 Environmental Screening Levels to meet the “most stringent” clean up objectives.<sup>3</sup> The phrase “most stringent” is undefined.
- Chevron requests that the EIR clarify that Chevron’s actual intended objective is to achieve an unrestricted, residential target. The project application states that the Tier 1 ESLs used to analyze project impacts are based on residential use and that other levels used in the analysis were also based on future residential use. To be clear, the EIR should state that the analysis of the reasonably foreseeable scope of environmental impacts is based on remediation activity assumptions (e.g., truck trips, soil excavation and other site activities) that are specifically necessary to achieve an unrestricted, residential target.<sup>4</sup>

- **Referenced Project Execution Schedule**

- The schedule included with our application in October 2021 reflected an execution schedule we believed to be achievable in 2022.<sup>5</sup> Given that we are approaching one year since the submission of our application and we are supportive of the City’s recommendation to prepare and EIR for our Project, the execution schedule will need to be amended. Once the City establishes its updated CEQA schedule, Chevron will incorporate that information into its current schedule and deliver an updated proposed execution schedule to the City. To the extent the City’s schedule is further revised, Chevron anticipates additional revisions to its proposed execution schedule.

- **Greenhouse Gas Emissions**

- The Initial Study states that “worst case annual average GHG emissions for the Project are less than 20% of the SBCAPCD threshold of 10,000 metric tons per year CO<sub>2</sub> equivalent for a stationary source. However, the Santa Barbara County threshold for GHG emissions is 1,000 metric tons per year and the Project would exceed this threshold (the City would need to determine if it wants to adopt this threshold).”<sup>6</sup>
- As the relevant air quality agency in the project area, the SBCAPCD threshold is more applicable to the Project. In addition, the Santa Barbara County threshold is designed to address industrial stationary sources, specifically oil and gas production and surface mining projects, and not short-term remediation or decommissioning activities such as those contemplated by the Project.
- Chevron requests that the City adopt the SBCAPD threshold.

- **Significant Impact decisions for Biological Resources, Cultural Resources, and Hazards and Hazardous Materials**

- While Chevron supports the enhanced level of environmental review via the EIR, Chevron has concerns about the rationale used to characterize some impacts as potentially significant.
  - Under Biological Resources (3.4), the City’s Initial Study describes the potential release of hydrocarbons during the decommissioning activities as potentially significant<sup>7</sup>.
    - As described in Chevron’s project application, the liquids pipelines are currently out of service and were previously pigged and flushed of hydrocarbons. The gas pipeline is currently flowing refined natural dry gas from shore to the offshore platform, and also

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<sup>2</sup> Project Description, p. 6-6

<sup>3</sup> 2.4 Proposed Project, p. 8

<sup>4</sup> 2.4 Proposed Project, p. 8

<sup>5</sup> 2.5 Construction Schedule, p. 9

<sup>6</sup> 3.8 Greenhouse Gas Emissions, p. 41.

<sup>7</sup> 3.4 Biological Resources, p. 31-34

contains no liquid hydrocarbons. There is no risk of a significant release of hydrocarbons from the pipeline activities.

- Chevron requests that the EIR analysis of potential releases from pipeline decommissioning re-evaluate the negligible risk of actual/probable impact.
- Under Cultural Resources (3.5)<sup>8</sup>, Chevron requests the following modifications to the City's proposed mitigations:
  - MM CUL-4 describes exclusion zones which must be documented and fenced prior to ground disturbance. However:
    - Intact subterranean cultural resources may be located in areas where no ground disturbance is planned but where staging of people, or equipment may occur on the surface, potentially making fencing infeasible.
    - Since submitting its October 2021 application, Chevron has learned that soil impacts and facilities that must be addressed may be within areas of identified subterranean cultural resources.
    - Chevron requests that the City, in consultation with Tribal members, work with Chevron to identify the appropriate scope and boundaries of Cultural Resources mitigation to achieve the Project's decommissioning and remediation objectives.
  - MM CUL-6 describes the requirements under California Public Resources Code §5097.98 that must be met if Chevron encounters Human Remains while executing their Proposed Project Activities.
    - Chevron requests that, in addition to the time period (24 hours) that the coroner has to notify the Native American Heritage Commission, MM CUL-4 should also reflect the 48-hour turnaround the descendants must be given to complete their investigation and make their recommendation in accordance with California Public Resources Code §5097.98.
- Under Hazards and Hazardous Materials (3.9), the City's Initial Study describes potential release of hazardous materials during pipeline construction activities as well as relating to the Legacy Wells.<sup>9</sup>
  - As previously described, the risk of a release of hydrocarbons during the pipeline construction (removal) activities is extraordinarily low. Chevron will have pigged and flushed all pipelines prior to the execution of the Proposed Project Activities.
  - The presence of Legacy Wells on the Project site is an existing baseline condition for purposes of CEQA analysis. Chevron has not included any activity as part of the Project that will disturb the Legacy Wells; the environmental risk of the Legacy Wells is no greater during Chevron's Proposed Project Activities than exists today.
  - Chevron requests that the EIR analysis of potential releases from pipeline decommissioning re-evaluate the negligible risk of actual/probable impact. Chevron further requests that the EIR scope specifically exclude any existing risks concerning the Legacy Wells as a baseline condition under CEQA and acknowledge that there is no greater environmental risk from Legacy Wells as a result of Chevron's Proposed Project Activities.

- **Legacy Wells**

- In Chevron's Project application, Chevron included the Historic Onsite Idle Wells (Legacy Wells) in the Facilities Not Included in Proposed Project Activities.

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<sup>8</sup> 3.5 Cultural Resources, p. 36-37

<sup>9</sup> 3.9 Hazards and Hazardous Materials, p. 42-43

- Chevron bears no obligation or responsibility for the abandonment of the Legacy Wells (Cal. Pub. Rec. Code § 3237), and has no intention of disturbing these Wells as part of the Decommissioning and Remediation of the Project Site.
- The City's Initial Study stated that "In order for the City to determine the Project site as suitable for future land use, the potential impact to public health and safety related to the potential for leakage of gas or other hazardous substances to the surface from the wells must be assessed."
  - Under Project Approvals, the City has added CalGEM to the list for consultation and guidance on the Legacy Wells for which Chevron bears no responsibility.<sup>10</sup>
  - Under Hazards and Hazardous Materials, the City has further identified the Legacy Wells as a hazard that could involve "...the release of hazardous materials into the environment."<sup>11</sup>
    - The City further adds, "In order for the City to determine the Project site as suitable for a future land use, the potential impact to public health and safety related to the potential for leakage of gas or other hazardous substances to the surface from the wells must be assessed."
- It is Chevron's intention only "... to demolish and remove surface and subsurface facilities and subsequent remediation of any impacted soils at the onshore Carpinteria Oil and Gas Processing Facility to accommodate the site's potential future redevelopment<sup>12</sup>."
  - Chevron has not made any future sale, development, or use decisions for the Project site, and only desires to achieve a remediation standard that allows the site to be used for a variety of potential future uses.
    - Chevron has not requested Project approval for future use, nor would that be appropriate at this time when such use is unknown. For these reasons, the action subject to this CEQA EIR review is limited to approval of permits related to decommissioning and remediation only.
    - The Proposed Project does not include or require determination of the Project Site as suitable for any future land use or assessment of any potential impact or potential leakage from Legacy Wells that may affect a future land use.
    - Chevron has elected to remediate the property to achieve an unrestricted, residential target, which will help facilitate future land uses that may be advanced at a later date in another project, potentially by another project proponent. However, any future land use that may be proposed in a later, separate project is presently unknown and speculative, not part of this Proposed Project being undertaken by Chevron.
- Chevron requests that the City's EIR reflect the appropriate scope of decommissioning and remediation, and exclude speculative future land uses and the Legacy Wells for which Chevron bears no responsibility from the EIR scope.

Chevron appreciates your attention to our comments. Please reach out to me directly if you would like to discuss any questions or concerns further. Thank you.

Sincerely,



Rebecca Trujillo  
Regulatory Affairs Manager

<sup>10</sup> 2.6 Project Approvals, p. 10-11

<sup>11</sup> 3.9 Hazards and Hazardous Materials, p. 43

<sup>12</sup> Project Description, 1.5 Purpose and Objectives, p. 1-2

**From:** Julie Tumamait-Stenslie <[jtumamait@hotmail.com](mailto:jtumamait@hotmail.com)>

**Sent:** Saturday, September 03, 2022 8:41 PM

**To:** Steve Goggia <[steveg@carpinteriaca.gov](mailto:steveg@carpinteriaca.gov)>

**Subject:** Chevron Carpinteria Oil and Gas

Greetings Steve,

I hope this finds you well.

This has been awhile in the making.

There has been changes in the Tribal organization

I am no longer Chair.

But I can still consult under section 106 as interested party.

If you went through the NAHC you would see the chairs contact info.

I would like to see a map.

Also recommend that there be a Phase 1 done for the project.

Ultimately I would recommend monitoring by a qualified Archaeologist and a qualified Native Chumash monitor.

Any ground disturbance including demolition.

In AB- 52, the chair of a Band can consult, the others on the NAHC are people who may have information on cultural resources Absence or Presence. This list is not a monitoring list. The BVBMI does not employ monitors.

We are all Independent contractors.

Hope this helps.

Julie Tumamait Stenslie

805 701 6152.





## NATIVE AMERICAN HERITAGE COMMISSION

August 4, 2022

Steve Goggia, Community Development Director  
City of Carpinteria  
5775 Carpinteria Ave.  
Carpinteria, CA 93013

**Re: 2022080026, Chevron Carpinteria Oil and Gas Facility Decommissioning Project, Santa Barbara County**

Dear Mr. Goggia:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit. 14, § 15064.5 (b) (CEQA Guidelines § 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

**Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.**

CHAIRPERSON  
**Laura Miranda**  
Luiseño

VICE CHAIRPERSON  
**Reginald Pagaling**  
Chumash

PARLIAMENTARIAN  
**Russell Attebery**  
Karuk

SECRETARY  
**Sara Dutschke**  
Miwok

COMMISSIONER  
**William Mungary**  
Paiute/White Mountain  
Apache

COMMISSIONER  
**Isaac Bojorquez**  
Ohlone-Costanoan

COMMISSIONER  
**Buffy McQuillen**  
Yokayo Pomo, Yuki,  
Nomlaki

COMMISSIONER  
**Wayne Nelson**  
Luiseño

COMMISSIONER  
**Stanley Rodriguez**  
Kumeyaay

EXECUTIVE SECRETARY  
**Raymond C. Hitchcock**  
Miwok/Nisenan

**NAHC HEADQUARTERS**  
1550 Harbor Boulevard  
Suite 100  
West Sacramento,  
California 95691  
(916) 373-3710  
[nahc@nahc.ca.gov](mailto:nahc@nahc.ca.gov)  
[NAHC.ca.gov](http://NAHC.ca.gov)

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CITY OF CARPINTERIA

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

**1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project:**

Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- a. A brief description of the project.
- b. The lead agency contact information.
- c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

**2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report:**

A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

**3. Mandatory Topics of Consultation If Requested by a Tribe:** The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- a. Alternatives to the project.
- b. Recommended mitigation measures.
- c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

**4. Discretionary Topics of Consultation:** The following topics are discretionary topics of consultation:

- a. Type of environmental review necessary.
- b. Significance of the tribal cultural resources.
- c. Significance of the project's impacts on tribal cultural resources.
- d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

**5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process:** With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

**6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document:** If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
- b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

**7. Conclusion of Consultation:** Consultation with a tribe shall be considered concluded when either of the following occurs:

- a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
- b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

**8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document:** Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

**9. Required Consideration of Feasible Mitigation:** If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

**10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:**

- a. Avoidance and preservation of the resources in place, including, but not limited to:
  - i. Planning and construction to avoid the resources and protect the cultural and natural context.
  - ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
- b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
  - i. Protecting the cultural character and integrity of the resource.
  - ii. Protecting the traditional use of the resource.
  - iii. Protecting the confidentiality of the resource.
- c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
- d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).
- e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
- f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

**11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource:** An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

- a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
- b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
- c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: [http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation\\_CalEPAPDF.pdf](http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf)

## SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: [https://www.opr.ca.gov/docs/09\\_14\\_05\\_Updated\\_Guidelines\\_922.pdf](https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf).

Some of SB 18's provisions include:

1. **Tribal Consultation:** If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. **No Statutory Time Limit on SB 18 Tribal Consultation.** There is no statutory time limit on SB 18 tribal consultation.
3. **Confidentiality:** Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. **Conclusion of SB 18 Tribal Consultation:** Consultation should be concluded at the point in which:
  - a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
  - b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: <http://nahc.ca.gov/resources/forms/>.

## NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center ([https://ohp.parks.ca.gov/?page\\_id=30331](https://ohp.parks.ca.gov/?page_id=30331)) for an archaeological records search. The records search will determine:
  - a. If part or all of the APE has been previously surveyed for cultural resources.
  - b. If any known cultural resources have already been recorded on or adjacent to the APE.
  - c. If the probability is low, moderate, or high that cultural resources are located in the APE.
  - d. If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
  - b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.



3. Contact the NAHC for:
  - a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
  - b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.
4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
  - a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, § 15064.5(f) (CEQA Guidelines § 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
  - b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
  - c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code § 7050.5, Public Resources Code § 5097.98, and Cal. Code Regs., tit. 14, § 15064.5, subdivisions (d) and (e) (CEQA Guidelines § 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address:

[Cody.Campagne@nahc.ca.gov](mailto:Cody.Campagne@nahc.ca.gov).

Sincerely,

*Cody Campagne*

Cody Campagne  
Cultural Resources Analyst

cc: State Clearinghouse



August 26, 2022

Steve Goggia  
City of Carpinteria  
Community Development Department  
5775 Carpinteria Avenue  
Carpinteria, CA 93013

Sent via Email: [SteveG@carpinteriaca.gov](mailto:SteveG@carpinteriaca.gov)

**Re: Santa Barbara County Air Pollution Control District Comments on the Notice of Preparation of a Draft Environmental Impact Report for the Decommissioning and Remediation of the Chevron Carpinteria Oil and Gas Processing Facility, Project Case #2128**

Dear Steve Goggia:

The Santa Barbara County Air Pollution Control District (District) appreciates the opportunity to provide comments on the Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) for the referenced project. The project proposal is for removal of surface and subsurface facilities and subsequent remediation of impacted soils at the onshore Carpinteria Oil and Gas Processing Facility. Project activities at the onshore location include: removal of all existing surface and subsurface equipment, piping, and structures within the Oil and Gas Processing Plant; removal of concrete foundations, asphalt, oil spray, and road base; excavation/remediation of any impacted soil; recycling/disposal of all materials removed from the project site; and site restoration. The project also proposes an offshore pipeline component in state waters which includes: pigging and flushing pipelines in preparation for removal; removal of offshore project pipeline segments out to the 3-mile state water limit; potential nighttime activities in the surf zone; removal of nearshore beach crossing pipeline segments; recycling/disposal of all materials removed from the project site; and site restoration. Project activities are expected to occur for 670 days over a three-year period between October 2022 and May 2025. The project site encompasses several parcels (APNs 001-070-003, -004, -014, -021, -022, and -023) over an approximately 64.28-acre site located at 5675 and 5663 Carpinteria Avenue in the City of Carpinteria.

District staff reviewed the NOP and concur that air quality and climate change impacts may be potentially significant. The proposed project includes equipment and/or operations that may be subject to District permit requirements and prohibitory rules. Therefore, the **District may be a responsible agency under the California Environmental Quality Act (CEQA) and will rely on the EIR when evaluating any District permits for proposed equipment.** To avoid additional CEQA documentation related to District permit issuance, the EIR should include the air pollutant emissions for all proposed operations and equipment in the project's air quality and GHG analysis and include mitigation as appropriate to reduce the impacts. The District's guidance document, entitled *Scope and Content of Air Quality Sections in Environmental Documents*, is available online at [www.ourair.org/land-use/](http://www.ourair.org/land-use/). This document should be referenced for general guidance in assessing air quality and climate change impacts in the EIR. The District should be contacted directly for specific guidance as needed.

**The EIR should evaluate the following potential impacts related to the project:**

1. Increase in Criteria Pollutant and Greenhouse Gas Emissions. Decommissioning activities may involve air quality and climate change impacts associated with the following potential activities:

- Construction activities,
- Support/utility boat main propulsion and auxiliary engines,
- Operation of oil storage tanks/vessels,
- Operation of support/utility boat main work engines (water blasters, welding, jet pumps, rotoscrows, compressors, pumps, winches, cranes),
- Operation of derrick barge/heavy lift vessel work engines (main power, winches, hoists, cranes, compressors, welding, backup power),
- Operation of other portable and stationary engines and equipment,
- Transportation of materials and equipment by on-road trucks,
- Worker commute trips from light duty trucks and passenger vehicles,
- Indirect emissions from electricity use, water use, and waste disposal.

Air pollutant emissions from all proposed operations and equipment require quantification and disclosure in the EIR. Please ensure that the analysis is based on the most up-to-date project description and activity data. Air pollutants that may be examined include criteria pollutants, greenhouse gases and toxic air contaminants (such as diesel particulate matter, hydrogen sulfide, and other toxic or hazardous air pollutants). Any associated combustion exhaust, fugitive hydrocarbons, and/or fugitive dust generation from these activities should also be included in the analysis. Air quality impacts are based on project-specific information and supported by technical studies whenever possible.

The EIR should present significance thresholds for ozone precursor emissions (reactive organic compounds [ROC], and oxides of nitrogen [NO<sub>x</sub>]), particulate matter, and carbon dioxide equivalent (CO<sub>2</sub>e) and determine whether the proposed project will produce emissions in excess of the thresholds. The District's *Environmental Review Guidelines for the Santa Barbara County APCD* (available at [www.ourair.org/landuse/](http://www.ourair.org/landuse/)) contains the District Board-adopted criteria for evaluating the significance of air quality and greenhouse gas impacts for District projects. In the absence of locally-adopted thresholds, the District recommends that these thresholds be used to determine significance of air quality impacts.

The emissions scenario for a peak year/day should include all project activities that could reasonably occur in a given year/day. The EIR should ensure that project tasks that could occur concurrently are included in the peak year/day compared to CEQA thresholds. To the extent possible, the District recommends that the methodology used to estimate stationary-source emissions be consistent with calculations that will need to be performed to fulfill requirements of the permitting process. Emissions from mobile, area, and stationary sources should be summed before comparing to a threshold of significance.

2. Attainment Status and Consistency with the District's Ozone Plan. Attainment status for the County is posted on the District website at [www.ourair.org/air-quality-standards](http://www.ourair.org/air-quality-standards). The most recent Ozone Plan (previously known as the Clean Air Plan) was adopted in December 2019 and is available at

[www.ourair.org/clean-air-plans](http://www.ourair.org/clean-air-plans). The District website should be consulted for the most up-to-date air quality information prior to the release of the public Draft EIR.

Consistency with local and regional plans, including the District's 2019 Ozone Plan, is required under CEQA for all projects. Consistency with the Ozone Plan should be evaluated on a case-by-case basis, and the EIR should include an assessment of whether the proposed project will be consistent with the Ozone Plan. The Ozone Plan relies primarily on land use, population, and on-road emissions projections provided by the California Air Resources Board (CARB) as a basis for vehicle emission forecasting. All development projects should be evaluated to determine whether direct and indirect emissions associated with the project are accounted for in the Ozone Plan's emissions growth assumptions, and whether the project is consistent with policies adopted in the Ozone Plan.

Commercial or industrial stationary source projects will generally be considered consistent with the Ozone Plan if they are consistent with District rules and regulations. Large industrial stationary sources may be found inconsistent if their emissions are not considered in the Plan's stationary source emission inventory.

3. Impacts to Air Quality Standard Attainment. If the project has the potential to cause or contribute to a violation of an air quality standard, an Air Quality Impact Assessment (AQIA) should be performed to determine whether project emissions will violate any air quality standard or contribute substantially to an existing or projected air quality violation. The AQIA should be performed pursuant to District Rule 805 and the District's *Modeling Guidelines for Air Quality Impact Assessments*, available at [www.ourair.org/wp-content/uploads/aqia.pdf](http://www.ourair.org/wp-content/uploads/aqia.pdf). For the purposes of CEQA analysis the modeling should include stationary, mobile, and fugitive dust emission sources. For more information on AQIAs, please refer to the District's webpage [www.ourair.org/air-quality-impact-assessment](http://www.ourair.org/air-quality-impact-assessment).

4. Impacts to Sensitive Receptors and Potential for Nuisance Issues. The EIR should examine whether any of the operations associated with the proposed project will result in air quality impacts by exposing sensitive receptors (e.g. residential, childcare facilities, schools, or senior living communities) to substantial pollutant concentrations. Examples of this type of impact include odors, dust, or toxic or hazardous air pollutants. Specifically, pipeline flushing operations could generate unpleasant odors. Please see the "Pipeline Purging" section on page 5 for measures to reduce the potential of odor impacts from this activity. Any measures implemented to control odors should be included in the project description, as a mitigation measure, or by some other enforceable mechanism.

If the project has the potential to emit toxic or hazardous air pollutants, or is located in close proximity to sensitive receptors, the EIR should determine the potential level of risk associated with their operations by conducting an HRA in accordance with the District's *Modeling Guidelines for Health Risk Assessments*, Form-15i, available at [www.ourair.org/wp-content/uploads/apcd-15i.pdf](http://www.ourair.org/wp-content/uploads/apcd-15i.pdf). More information on HRAs can be found at [www.ourair.org/air-toxics-for-business](http://www.ourair.org/air-toxics-for-business).

5. Mitigation. If impacts are found to be significant, mitigation should be applied to reduce those emissions as appropriate under CEQA. Mitigation measures should be made enforceable through permit conditions, agreements, or other legally binding instruments. The EIR should include a Mitigation Monitoring and Reporting Plan that explicitly states the required mitigations and establishes a mechanism for enforcement. Section 6 of the District's Scope and Content document offers ideas for air quality mitigation. In addition, CAPCOA has published the *Handbook for Analyzing Greenhouse Gas*

*Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*, an extensive sector-by-sector compendium of project-specific mitigation measures, including quantification methods to calculate GHG reductions. The Handbook is available at [www.caleemod.com/handbook/index.html](http://www.caleemod.com/handbook/index.html). Additionally, the District has identified some potential strategies for local GHG mitigation that could be implemented in Santa Barbara County. These strategies are summarized and posted on the District's website at [www.ourair.org/ghgmitigation-sbc](http://www.ourair.org/ghgmitigation-sbc). Project-specific measures may be developed that are pertinent to the specific project and are enforceable by the District.

6. Asbestos Reporting Requirements. Since the project will involve demolition and renovation of existing structures, the EIR should include a discussion of how materials will be removed in compliance with District Rule 1001 – *National Emission Standards for Hazardous Air Pollutants (NESHAP) – Asbestos*. Advance notification to the District is required before asbestos is disturbed and/or removed. For additional information regarding asbestos notification requirements, please visit our website at [www.ourair.org/asbestos](http://www.ourair.org/asbestos).

**District staff has the following regulatory advisories:**

1. New Source Review: The District will evaluate the emissions from the project to determine which New Source Review (NSR) requirements will apply as part of the District ATC application review. NSR requirements may include Best Available Control Technology (BACT), Air Quality Impact Analysis (AQIA), Health Risk Assessment (HRA), and/or Emission Reduction Credits (ERCs). The District permit process can take several months. To avoid delay, the applicant is encouraged to submit their Authority to Construct permit application to the District as soon as possible, see [www.ourair.org/permit-applications/](http://www.ourair.org/permit-applications/) to download the necessary permit application(s).
2. Contaminated Soils. District Authority to Construct and/or Permit to Operate permits will be required for the proposed contaminated soil remediation activities. See [www.ourair.org/csc-projects](http://www.ourair.org/csc-projects) for more information on contaminated soil clean-up.
3. Diesel Engines. All portable diesel-fired construction engines rated at 50 brake horsepower or greater must have either statewide Portable Equipment Registration Program (PERP) certificates or District permits prior to grading/building permit issuance. Construction engines with PERP certificates are exempt from the District permit, provided they will be on-site for less than 12 months.
4. Marine Engines. Per District Rule 202.F.8., marine vessel engines may be subject to NSR requirements if activities exceed 12 consecutive months or the potential to emit of such engines exceeds 10 tons per stationary source of NO<sub>x</sub>, SO<sub>x</sub>, ROCs, or particulate matter.
5. Asbestos. The applicant is required to complete and submit an Asbestos Demolition/Renovation Notification or an EXEMPTION from Notification for Renovation and Demolition (District Form ENF-28 or District Form ENF-28e), which can be downloaded at [www.ourair.org/compliance-forms](http://www.ourair.org/compliance-forms) for each regulated structure to be demolished or renovated. Demolition notifications are required regardless of whether asbestos is present or not. The completed exemption or notification should be presented, mailed, or emailed to the District with a minimum of 10 working days advance notice prior to disturbing asbestos in a renovation or starting work on a demolition. The applicant should visit [www.ourair.org/asbestos](http://www.ourair.org/asbestos) to determine whether the project triggers asbestos notification requirements or whether the project qualifies for an exemption.

6. Onsite Storage. If there is any planned or potential storage of ROC-containing liquids or solids (e.g. ROC-impacted soils), the applicant must obtain a District permit or written exemption for permit.

7. Pipeline Purging. Pipeline purging operations have the potential for odor generation. In order to prevent odors from causing a violation of District Rule 303, *Nuisance*, the District recommends that carbon canisters or a thermal oxidizer be employed to control vapors released during pipeline decommissioning activities. Some companies already have permits with the District for thermal oxidizer units. The applicant should consider using an already permitted unit through a company, or could contact the District to obtain a permit or written permit exemption.

8. Fugitive Dust. Construction/demolition activities are subject to District Rule 345, *Control of Fugitive Dust from Construction and Demolition Activities*. This rule establishes limits on the generation of visible fugitive dust emissions at demolition and construction sites, includes measures for minimizing fugitive dust from on-site activities, and from trucks moving on- and off-site. Please see [www.ourair.org/wp-content/uploads/rule345.pdf](http://www.ourair.org/wp-content/uploads/rule345.pdf). Activities subject to Rule 345 are also subject to Rule 302 (*Visible Emissions*) and Rule 303 (*Nuisance*). To reduce the potential for violations of these District Rules, standard dust mitigations (**Attachment A**) are recommended for all construction and/or grading activities. The name and telephone number of an on-site contact person must be provided to the District prior to grading/building permit issuance.

9. Equipment Exhaust. The State of California considers particulate matter emitted by diesel engines carcinogenic. Therefore, during project grading, construction, and hauling, construction contracts must specify that contractors shall adhere to the requirements listed in **Attachment B** to reduce emissions of particulate matter (as well as of ozone precursors) from diesel equipment. Recommended measures should be implemented to the maximum extent feasible.

10. Idling. At all times, idling of heavy-duty diesel trucks should be minimized; auxiliary power units should be used whenever possible. State law requires that:

- Drivers of diesel-fueled commercial vehicles shall not idle the vehicle's primary diesel engine for greater than 5 minutes at any location.
- Drivers of diesel-fueled commercial vehicles shall not idle a diesel-fueled auxiliary power system (APS) for more than 5 minutes to power a heater, air conditioner, or any ancillary equipment on the vehicle. Trucks with 2007 or newer model year engines must meet additional requirements (verified clean APS label required).
- See [www.arb.ca.gov/noidle](http://www.arb.ca.gov/noidle) for more information.

We hope you find our comments useful. We would appreciate the opportunity to review and provide feedback on the air quality and GHG analyses and an internal draft of the Draft EIR before it is released for public review. If you have any questions or wish to discuss these comments, please contact me at (805) 979-8334 or by e-mail at [WaddingtonE@sbcapcd.org](mailto:WaddingtonE@sbcapcd.org).



*August 26, 2022*

*Page 6 of 6*

Sincerely,

A handwritten signature in black ink, appearing to read "Emily Waddington". The signature is fluid and cursive, with the first name "Emily" and last name "Waddington" clearly distinguishable.

Emily Waddington  
Air Quality Specialist  
Planning Division

Attachments: Fugitive Dust Control Measures  
Diesel Particulate and NO<sub>x</sub> Emission Measures

cc: Becky Trujillo, Chevron Regulatory Affairs Manager [email only]  
David Harris, Manager, District Engineering Division [email only]  
William Sarraf, Supervisor, District Engineering Division [email only]  
Planning Chron File



**ATTACHMENT A**  
**FUGITIVE DUST CONTROL MEASURES**

These measures should be required for all projects involving earthmoving activities regardless of the project size or duration. Projects are expected to manage fugitive dust emissions such that emissions do not exceed APCD's visible emissions limit (APCD Rule 302), create a public nuisance (APCD Rule 303), and are in compliance with the APCD's requirements and standards for visible dust (APCD Rule 345).

- During construction, use water trucks, sprinkler systems, or dust suppressants in all areas of vehicle movement to prevent dust from leaving the site and from exceeding the APCD's limit of 20% opacity for greater than 3 minutes in any 60 minute period. When using water, this includes wetting down areas as needed but at least once in the late morning and after work is completed for the day. Increased watering frequency should be required when sustained wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.
- Onsite vehicle speeds shall be no greater than 15 miles per hour when traveling on unpaved surfaces.
- Install and operate a track-out prevention device where vehicles enter and exit unpaved roads onto paved streets. The track-out prevention device can include any device or combination of devices that are effective at preventing track out of dirt such as gravel pads, pipe-grid track-out control devices, rumble strips, or wheel-washing systems.
- If importation, exportation, and stockpiling of fill material is involved, soil stockpiled for more than one day shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.
- Minimize the amount of disturbed area. After clearing, grading, earthmoving, or excavation is completed, treat the disturbed area by watering, OR using roll-compaction, OR revegetating, OR by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur. All roadways, driveways, sidewalks etc. to be paved should be completed as soon as possible.
- Schedule clearing, grading, earthmoving, and excavation activities during periods of low wind speed to the extent feasible. During periods of high winds (>25 mph) clearing, grading, earthmoving, and excavation operations shall be minimized to prevent fugitive dust created by onsite operations from becoming a nuisance or hazard.
- The contractor or builder shall designate a person or persons to monitor and document the dust control program requirements to ensure any fugitive dust emissions do not result in a nuisance and to enhance the implementation of the mitigation measures as necessary to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to grading/building permit issuance and/or map clearance.

**PLAN REQUIREMENTS:** All requirements shall be shown on grading and building plans and/or as a separate information sheet listing the conditions of approval to be recorded with the map. **Timing:** Requirements shall be shown on plans prior to grading/building permit issuance and/or recorded with the map during map recordation. Conditions shall be adhered to throughout all grading and construction periods.

**MONITORING:** The Lead Agency shall ensure measures are on project plans and/or recorded with maps. The Lead Agency staff shall ensure compliance onsite. APCD inspectors will respond to nuisance complaints.



**ATTACHMENT B**  
**DIESEL PARTICULATE AND NO<sub>x</sub> EMISSION REDUCTION MEASURES**

Particulate emissions from diesel exhaust are classified as carcinogenic by the state of California. The following is a list of regulatory requirements and control strategies that should be implemented to the maximum extent feasible.

The following measures are required by state law:

- All portable diesel-powered construction equipment greater than 50 brake horsepower (bhp) shall be registered with the state's portable equipment registration program OR shall obtain an APCD permit.
- Fleet owners of diesel-powered mobile construction equipment greater than 25 hp are subject to the California Air Resource Board (CARB) In-Use Off-Road Diesel-Fueled Fleets Regulation (Title 13, California Code of Regulations (CCR), §2449), the purpose of which is to reduce oxides of nitrogen (NO<sub>x</sub>), diesel particulate matter (DPM), and other criteria pollutant emissions from in-use off-road diesel-fueled vehicles. Off-road heavy-duty trucks shall comply with the State Off-Road Regulation. For more information, see [www.arb.ca.gov/msprog/ordiesel/ordiesel.htm](http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm).
- Fleet owners of diesel-fueled heavy-duty trucks and buses are subject to CARB's On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation (Title 13, CCR, §2025), the purpose of which is to reduce DPM, NO<sub>x</sub> and other criteria pollutants from in-use (on-road) diesel-fueled vehicles. For more information, see [www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm](http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm).
- All commercial off-road and on-road diesel vehicles are subject, respectively, to Title 13, CCR, §2449(d)(3) and §2485, limiting engine idling time. Off-road vehicles subject to the State Off-Road Regulation are limited to idling no more than five minutes. Idling of heavy-duty diesel trucks during loading and unloading shall be limited to five minutes, unless the truck engine meets the optional low-NO<sub>x</sub> idling emission standard, the truck is labeled with a clean-idle sticker, and it is not operating within 100 feet of a restricted area.

The following measures are recommended:

- Diesel equipment meeting the CARB Tier 3 or higher emission standards for off-road heavy-duty diesel engines should be used to the maximum extent feasible.
- On-road heavy-duty equipment with model year 2010 engines or newer should be used to the maximum extent feasible.
- Diesel powered equipment should be replaced by electric equipment whenever feasible. Electric auxiliary power units should be used to the maximum extent feasible.
- Equipment/vehicles using alternative fuels, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, should be used on-site where feasible.
- Catalytic converters shall be installed on gasoline-powered equipment, if feasible.
- All construction equipment shall be maintained in tune per the manufacturer's specifications.
- The engine size of construction equipment shall be the minimum practical size.
- The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.
- Construction worker trips should be minimized by requiring carpooling and by providing for lunch onsite.
- Construction truck trips should be scheduled during non-peak hours to reduce peak hour emissions whenever feasible.
- Proposed truck routes should minimize to the extent feasible impacts to residential communities and sensitive receptors.
- Construction staging areas should be located away from sensitive receptors such that exhaust and other construction emissions do not enter the fresh air intakes to buildings, air conditioners, and windows.

**PLAN REQUIREMENTS AND TIMING:** Prior to grading/building permit issuance and/or map recordation, all requirements shall be shown as conditions of approval on grading/building plans, and/or on a separate sheet to be recorded with the map. Conditions shall be adhered to throughout all grading and construction periods. The contractor shall retain the Certificate of Compliance for CARB's In-Use Regulation for Off-Road Diesel Vehicles onsite and have it available for inspection.

**MONITORING:** The Lead Agency shall ensure measures are on project plans and/or recorded with maps. The Lead Agency staff shall ensure compliance onsite. APCD inspectors will respond to nuisance complaints.



100 N. Hope Ave. Suite 3-B  
Santa Barbara, CA. 93110  
(805) 895-3000

Steve Goggia  
Community Development Director  
City of Carpinteria  
5775 Carpinteria Avenue  
Carpinteria, CA. 93013

Dear Steve:

The Sportfishing Conservancy has a proud history of coastal and marine conservation, habitat enhancement and restoration efforts. Our efforts within the fishing community have consistently focused on employing “best practices” in the pursuit of their sport. Understanding the value of marine habitat, we have dedicated our efforts in support of other local organizations that specialize in marine habitat enhancement and restoration. For more than a decade we have supported local Santa Barbara county non-profit organizations including the Land Trust for Santa Barbara County (with their Carpinteria Salt Marsh restoration and enhancement efforts), South Coast Habitat Restoration (with their steelhead habitat enhancement efforts) and the Gaviota Coast Conservancy (with their coastal recreation/preservation efforts). We raise funds and contribute these directly to these organizations for their ongoing efforts. With this as background, we are happy to see the Chevron decommissioning efforts underway. Done well, these efforts can provide an environmental benefit to both our coastal landscape and marine seascape. The biggest threat to these benefits is prolonged legal wrangling. History shows that work that should take 36 months to complete quite literally drags on for years or decades, benefitting no one beyond the attorneys. Going through your analysis, it is clear that the proposed actions have little, if any negative environmental impact and yet potentially large benefits with the project moving forward as described. As noted, the only significant impact was a possible accidental release of potential hydrocarbons during the removal process. This work will be done by a skilled workforce and in full public view. And should an accidental release happen, it clearly could be immediately stopped and mitigated if necessary.

Therefore, we suggest it is time to “fish or cut bait,” and mercifully forego the legal wrangling’s that do more damage than good. It is time to move forward with a mitigated negative declaration.

Sincerely,

A handwritten signature in black ink, appearing to read "Tom Raftican". The signature is stylized with a cursive script, featuring a prominent "T" and "R".

Tom Raftican  
President, The Sportfishing Conservancy



-----Original Message-----

From: Susan Allen <[dlssallen@aol.com](mailto:dlssallen@aol.com)>

Sent: Sunday, September 25, 2022 10:49 PM

To: Steve Goggia <[steveg@ci.carpinteria.ca.us](mailto:steveg@ci.carpinteria.ca.us)>

Subject: Comments on the NOP decommissioning the Chevron plant

Please acknowledge receipt. Thank you. Susan Allen Comments on the NOP

In light of the odor nuisance violation issued in September 2022 and previous other odor violations the public should have notice if and when an odor incident occurs through the city newsletter, social media and news releases.

Temporary signage along Dump Road and the hiking /biking trail should give current updates of the nature of the work and who to contact for any questions or concerns.

Where are the historic and current cathodic wells located and how will they be monitored and abandoned?

What if any recent testing has occurred in the Sandblast area (east of the ocean sideparking area?) When that area was cleaned years ago it was reported that a foot of soil was removed but in my observations only a few inches were removed.

A large tower type piece of equipment was removed a number of years ago at the east side of the operations area and to my knowledge without permit. Can that piece of equipment and its usage be identified and has adequate soil testing been done in that area?

Have drainage issues been addressed? Often there is water in the cement drainage ditch west of Dump Rd but no water is visible on the east side. Pipes gathering drainage from the bluffs 1 area are thought to cross the Chevron property.

Parking for employees working on decommissioning the plant area should occur north of the RR tracks to avoid possible increased disturbance of the harbor seals. This would also apply to all equipment or supply storage. As a safety measure it will also cut down on traffic crossing RR tracks and interface with folks using the hiking/biking trail.

During non drought years the retention basin around tank 861 has had substantial water collection. Why has it not been included in the wetlands analysis? It once held wetlands species.

How will historic pedestrian and bike traffic be handled on Dump Rd during decommissioning?

Will the native plants covering the metal topped vault located on the bluffs edge west of the pier be replaced?

How will the pipelines left in place be abandoned? Filled with concrete? If left in place and not filled will pipes eventually corrode and create sinkholes? I believe this has happened in an area in Tar pits Park.

## SEALS

Suggest that western most pipes be removed first. This will give workers and MM observers an opportunity to assess how best such work can quickly proceed to avoid unnecessary seal disturbance. Note that the offshore rocks are also a seal haulout site. (One of the three Carpinteria haulout locations.)

Exactly what pipes are in the cement bundle....isn't there a water outfall pipe in that location? Where is the electrical line for Gail and Grace located?

No work should occur during city beach closure. In recent years Sealwatch has noted a decline in the population and to date have not been able to discern a cause. All work must be done outside the beach closure window.

A minimum of two well qualified MM observers must be required and video cameras installed so that interested members of the public can be assured that the seals are being fully protected. Members of Sealwatch have witnessed too many occasions when the seals have not been fully protected.

Placing a screen on the beach will need more research and monitoring. Has this been done with harbor seals in other areas and has it been effective?

Data collection should be made public on a daily basis.

How long will concrete removal on the beach take and will the crane be moved closer to shore for this operation? Will the crane be moved away when not in use— what effect may a new large structure near the haulout have on the seals even when not in motion?

Has the drainage pipe and concrete at the west corner of the Seal Sanctuary overlook been included in any study?

Pupping has been as early as January and as late as May with surviving pups.

## Comment on the Carpinteria CEQA Initial Study of Chevron's Decommissioning

The **CEQA Initial Study** concerns me in that the decommissioning will place an unacceptable burden on our environment. I am commenting from two standpoints:

1. As a Veterinarian who works closely with Seal Watch and CIMWI (Channel Islands Marine and Wildlife Institute) I would like to fortify and add to Padre and Associates Inc. conclusions regarding the Harbor Seal Rookery; and
2. The Intergovernmental Panel on Climate Change determined we are in a CLIMATE CODE RED ALERT. If we do not greatly curb Greenhouse Gas Emissions ASAP, we will not be able to avoid the rise of temperature which will carry catastrophic results.

### Item 1 Harbor Seals

- The numbers in the Carpinteria Harbor Seal rookery are in decline;
- This is one of only two remaining rookeries on Southern California coast where harbor seals can be viewed by the public;
- Harbor seals have a low reproductive rate. During the projects anticipated course, jeopardizing the three years during which maturing seals could have given birth, were it not for being underweight and diminishing healthy pups will adversely affect the colony;
- Their habitat will become uninhabitable with sediment, pollution, noise and ongoing disturbance pollution.

The Carpinteria Harbor Seal Rookery Monitoring and Protection Plan by Padre Associates Inc. of June 2021 identified that activities to be undertaken would require applying for a take. In other words, loss of seals was anticipated.

That alone indicates that this plan is not acceptable for the seals who have already adapted their physiology and behavior to tolerate Chevron's pier activities. Wild animals gauge potential threat by a Predatory Imminence Continuum under which their stress levels are tolerable. Changing the timing, noise levels, light levels, and predictability will quite possibly push this stressed colony to engage in energetically expensive, aversive behaviors (i.e. increase vigilance, decreased foraging, etc.).

In February of 2019, PACOPS was performing emergency repair in the seal rookery, at a time that seals were giving birth. There were people assigned to monitor seal reactions. I monitored independently. To those without in-depth knowledge of seal physiology and behavior, stress and reactions were repeatedly underscored.

### Item 2 Climate Crisis

Climate action must take precedence for governments, agencies, and individuals over all other activities, including Chevron's obligation to decommission its oil and gas processing plant. Carpinteria and the surrounding highway expansion have instead greatly **added to GHG Emissions**, and in order to decommission to Tier 1, the trucking, concrete demolition, soil excavation, grade and fill activities and deforestation will further set us back. But there are laws such as the California Marine Resources Legacy Act can assist in removing much of the additional harm by converting platforms to reefs; and the newly signed Climate Resiliency Districts could and should be used to the fullest possible extent to avoid further destruction.

### Our Obligation as a City and as Citizens

I URGE YOU TO PROTECT OUR SEALS, OUR LAND AND OCEAN BY ABANDONING THE FACILITY FOR OPEN SPACE INSTEAD OF DECOMMISSIONING TO TIER 1

#### HOW THE DECOMMISSIONING CEQA INITIAL STUDY RELATES TO CLIMATE CHANGE

Climate change is hurtling forward when it is our responsibility - all of us- to do what we can to mollify its effects. Carpinteria has made no visible climate abatement efforts. To its credit, Carpinteria has determined that an EIR is called for with Chevron's CEQA Initial Study. Therefore, Chevron - a representative of the industry which set climate change on a fast course - and is responsible for remediation of the oil and gas processing plant - can be tasked with a major role in climate change mitigation. The mechanism I propose is explained at the close of my comments through the use of a new California Law providing Climate Resiliency Districts.

Soon after the determination was made that climate change is rapidly proceeding, a multitude of environmental organizations put into play a list of potential mitigations. This statement, taken from one of the many organizations (Sea Doc Society), sums up the obligation of Chevron to take responsibility for their industry's role in the destruction of our planet:

**WHEREAS**, such necessary measures to restore a safe climate include:

- a. A rapid, just, managed phase-out of fossil fuels;
- b. Ending greenhouse gas emissions as quickly as possible to establish a zero-emissions economy;
- c. A rapid transition to a 100% renewable energy system across all economic sectors;
- d. A widespread effort to safely drawdown excess carbon from the atmosphere;
- e. A full transition to a regenerative agriculture system; and
- f. An end to the Sixth Mass Extinction through widespread conservation and restoration of ecosystems;

They go on to state:

**BE IT FURTHER RESOLVED**, the [CITY/COUNTY] Council directs all departments, proprietaries, and commissions to identify and prioritize climate adaptation and mitigation strategies that are people-centered, including but not limited to:

**1. Clean and renewable energy**, which involves deploying and efficiently using clean, renewable and locally sourced electricity generated on site or transmitted through the power grid; including upgrading public and private facilities to 100% renewable energy such as solar and battery storage.

**2. Community-wide electrification and fossil fuel phase out**, which involves upgrading and replacing carbon-intensive, fossil fuel-based infrastructure, including buildings, heating sources, appliances, and combustion power with efficient, energy-saving infrastructure powered by clean, renewably-generated electric power.

**3. Carbon sequestration**, which involves drawing down carbon dioxide and other greenhouse gases from the atmosphere through ecological and/or technological methods and capturing and safely storing them in plants, soils, water systems, and other solid forms;

**4. Transportation, mobility, and connectivity**, which involves developing and enhancing land use patterns that foster safe, multimodal, accessible, equitable, intelligent, and clean motorized and non- motorized travel options, infrastructure, and community connectivity; including updating zoning codes to allow compatible residential infill and neighborhood-oriented commercial uses so that services like bakeries, grocery stores, and coffee shops are accessible to residents by foot or bike;

**5. Resource conservation and the elimination of waste**, which involves conserving natural and manufactured resources by means of responsible production, consumption, reuse, and recycling; including developing a community-wide Zero Waste Plan; adopting the "food recovery hierarchy" citywide through educational programs and policies to first promote the reduction of surplus food, and then ensure excess food is use to feed the hungry, animals, or composted before it ends in the landfill; expanding [CITY/COUNTY'S] conservation programs to further reduce water and resource use;

**6. Green infrastructure and restorative ecology**, which involves incorporating green infrastructure (trees, capture and use of stormwater runoff) into community design, and restoring, rehabilitating, and restoring/repurposing damaged ecosystems through active intervention to maximize biodiversity and the drawdown and sequestration of carbon dioxide;

**7. Climate adaptation and resilience**, which involves preparing for, learning from, and adapting to the effects of climate change through proactive and holistic planning and response at the infrastructural, cultural, and institutional levels, including limiting/restricting development in areas that are vulnerable to flooding, landslides, and wildfires, increasing the number of community cooling centers for vulnerable populations during extreme heat, incorporating changing climatic conditions and climate hazards into emergency response and recovery programs and ensuring affordable housing units are available for vulnerable communities.

Carpinteria's CEQA Initial Study documents a number a ways that this decommissioning will not only fail to mitigate climate change, but will in fact worsen it significantly.

Chevron's operations over the 62+ acres of Carpinteria and the surrounding ocean ecosystems have wreaked destruction that may never be truly be remediated.

The Decommissioning that Chevron proposes **should not be allowed to further worsen our crisis**. The Initial Study reveals many plans which will do just that:

Item d. above calls for the drawdown of excess atmospheric carbon. The buffer zone on Bluffs 0 has been fallow, and effectively rewilding. Trees and vegetation, many of which are native, are currently sequestering carbon. The soil has a high content of organic matter. With a 2% organic matter, 42 tons per acre of atmospheric carbon is sequestered - trapped in aggregates with water-holding capacity, providing shade, cooling, and diminishing evaporation and acting as a buffer when a fire breaks out. The Bluffs 0 has been estimated to have 3% or 4% organic matter. If released you lose that soil health.

To propose converting this property to Tier 1 would incur trucking, grade and fill activities that cannot possibly remediate when it is in fact contributing still more Greenhouse Gas Emissions.

Chevron should be encouraged to do the following to fulfill their obligations instead of attempting to return the land to original state at the environmental cost that would incur.

1. We should evaluate and preserve the existing tree inventory and develop a planting program to renew and extend a native tree canopy, restoring habitat for bees, bats, and birds;

SUSAN MAILHEAU, DVM

9/28/22



### Location of Comment Discussion in Draft EIR

Commenting Agency	Comment	Location of Comment Discussion in Draft EIR
California Coastal Commission	Commission staff support the City's determination that an EIR is required and we look forward to coordinating with the City on the development of the EIR and the CDP process.	Section 1.0
California Department of Fish and Wildlife	CDFW agrees with the Report that further study is needed to determine whether eelgrass is present near the Project area. CDFW recommends conducting eelgrass surveys in accordance with the California Eelgrass Mitigation Policy (NMFS 2014) and in consultation with the National Marine Fisheries Service. Further study is also needed to determine if kelp, eelgrass, or surf grass are growing on or above the pipelines. The DEIR should document these findings as well as all sensitive marine habitats within the Project area. Project activities should avoid sensitive marine habitats to the greatest extent possible. If these habitats cannot be avoided, the DEIR should include appropriate mitigation measures.	Section 4.3
California Department of Fish and Wildlife	Project activities on the beach (below the highest tide line) and in the surf zone during March–August should be avoided to the greatest extent feasible. If work during this time cannot be avoided, the DEIR should provide measures to mitigate for the Project's potential impacts on California grunion. CDFW recommends that a qualified biological observer monitor the work site prior to the start of activities in the intertidal zone during the previous forecast grunion run period (3–4 nights in a row). If grunion is observed at the work site, the Project should suspend activities below the highest tide line for at least two weeks to allow grunion eggs to incubate and hatch out. The Report also identifies black abalone ( <i>Haliotis cracherodii</i> ) and white abalone ( <i>Haliotis sorenseni</i> ) as special-status species that may occur in the Project area. There is some probability that abalone could be found on the pipelines themselves in unburied sections. For this reason, CDFW recommends conducting abalone surveys on the unburied sections of pipeline prior to removal under consultation with the National Marine Fisheries Service. The DEIR should consider the potential impacts	Section 4.3
California Department of Fish and Wildlife	The DEIR should discuss potential impacts to marine mammals and fish from underwater noise-producing activities and include an analysis of anticipated underwater sound levels for these activities. If activities will generate high underwater sound levels, CDFW recommends using a "soft-start" technique for these activities so that any marine mammals or fish present may vacate the area before injury occurs. CDFW appreciates AMM 3 (Marine Wildlife Contingency Plan Implementation), which includes the presence of a Marine Wildlife Monitor during Project activities offshore and on the beach and looks forward to reviewing this document once it is available. CDFW recommends that the Marine Wildlife Contingency Plan include exclusion zones for marine mammals, which should be developed in consultation with the National Marine Fisheries Service and CDFW.	Section 4.3
California Department of Fish and Wildlife	CDFW appreciates the inclusion of AMM 6 (Oil Spill Response and Contingency Plan Implementation) and recommends coordinating closely with CDFW's Office of Spill Prevention and Response (OSPR) while developing this plan.	Section 4.3

## Location of Comment Discussion in Draft EIR

Commenting Agency	Comment	Location of Comment Discussion in Draft EIR
California Department of Fish and Wildlife	CDFW expects that a variety of marine life is currently growing on or attached to the pipelines proposed for removal. These organisms may include, but are not limited to, mussels, barnacles, hydroids, surf grass, kelp, and other marine algae. The DEIR should explain in detail what the Project plans to do with the marine life attached to the pipelines; for instance, if organisms will be removed, how and where they will be removed, etc. Special consideration should be given to special-status species, such as black abalone, and what mitigation measures may be required. CDFW recommends that the Project proponent consult with CDFW on what authorizations may be required for the removal of species attached to the pipelines.	Section 4.3
California Department of Fish and Wildlife	CDFW recommends re-assessing the natural communities on-site using current MCV online (2022) nomenclature. CDFW recommends avoiding all sensitive natural communities.	Section 4.3
California Department of Fish and Wildlife	General Comments on 1) California Endangered Species Act (CESA); 2) Fully Protected Species; 3) Project Description and Alternatives; 4) Lake and Streambed Alteration (LSA) Agreements; 5) Wetlands Resources; 6) Biological Baseline Assessment; 7) Biological Direct, Indirect, and Cumulative Impacts 8) Avoidance, Minimization, and Mitigation for Sensitive Plants; 9) Compensatory Mitigation; 10) Long-Term Management of Mitigation Lands; 11) Nesting Birds; 12) Translocation/Salvage of Plants and Animal Species; 13) Moving out of Harm's Way; 14) Revegetation/Restoration Plan	Section 4.3
Chevron	Chevron requests that the City consider the following points and clarifications regarding the scope and content of the EIR <ul style="list-style-type: none"> <li>• Project Acreage</li> </ul>	Section 2.0
Chevron	<ul style="list-style-type: none"> <li>• Referenced Project Execution Schedule</li> </ul>	Section 2.0
Chevron	<ul style="list-style-type: none"> <li>• Referenced Soil Remediation Targets</li> </ul>	Section 2.0
Chevron	<ul style="list-style-type: none"> <li>• Greenhouse Gas Emissions</li> </ul>	Section 4.6
Chevron	<ul style="list-style-type: none"> <li>• Significant Impact decisions for Biological Resources, Cultural Resources, and Hazards and Hazardous Materials</li> </ul>	Sections 4.3, 4.4, and 4.7
Chevron	<ul style="list-style-type: none"> <li>• Legacy Wells</li> </ul>	Section 4.7
Julie Tumamait Stenslie	I would like to see a map. Also recommend that there be a Phase 1 done for the project. Ultimately I would recommend monitoring by a qualified Archaeologist and a qualified Native Chumash monitor. Any ground disturbance including demolition. In AB- 52, the chair of a Band can consult, the others on the NAHC are people who may have information on cultural resources Absence or Presence. This list is not a monitoring list. The BVBMI does not employ monitors. We are all independent contractors.	Section 4.12
Native American Heritage Commission	The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources.	Section 4.12

### Location of Comment Discussion in Draft EIR

Commenting Agency	Comment	Location of Comment Discussion in Draft EIR
Santa Barbara County Air Pollution Control District	The EIR should evaluate the following potential impacts related to the project: <ol style="list-style-type: none"> <li>1. Increase in Criteria Pollutant and Greenhouse Gas Emissions.</li> <li>2. Attainment Status and Consistency with the District's Ozone Plan.</li> <li>3. Impacts to Air Quality Standard Attainment.</li> <li>4. Impacts to Sensitive Receptors and Potential for Nuisance Issues.</li> <li>5. Mitigation.</li> <li>6. Asbestos Reporting Requirements.</li> </ol>	Sections 4.2 and 4.6
The Sportfishing Conservancy	We suggest it is time to "fish or cut bait," and mercifully forego the legal wrangling's that do more damage than good. It is time to move forward with a mitigated negative declaration.	Section 1.0
Susan Allen	In light of the odor nuisance violation issued in September 2022 and previous other odor violations the public should have notice if and when an odor incident occurs through the city newsletter, social media and news releases.	Section 4.2
Susan Allen	Temporary signage along Dump Road and the hiking/biking trail should give current updates of the nature of the work and who to contact for any questions or concerns.	
Susan Allen	Where are the historic and current cathodic wells located and how will they be monitored and abandoned?	Section 4.7
Susan Allen	What if any recent testing has occurred in the Sandblast area (east of the oceanside parking area?) When that area was cleaned years ago it was reported that a foot of soil was removed but in my observations only a few inches were removed.	Section 4.7
Susan Allen	A large tower type piece of equipment was removed a number of years ago at the east side of the operations area and to my knowledge without permit. Can that piece of equipment and its usage be identified and has adequate soil testing been done in that area?	Section 4.7
Susan Allen	Have drainage issues been addressed? Often there is water in the cement drainage ditch west of Dump Rd but no water is visible on the east side. Pipes gathering drainage from the bluffs 1 area are thought to cross the Chevron property.	Section 4.8
Susan Allen	Parking for employees working on decommissioning the plant area should occur north of the RR tracks to avoid possible increased disturbance of the harbor seals. This would also apply to all equipment or supply storage. As a safety measure it will also cut down on traffic crossing RR tracks and interface with folks using the hiking/biking trail.	Section 4.3, Section 4.11
Susan Allen	During non drought years the retention basin around tank 861 has had substantial water collection. Why has it not been included in the wetlands analysis? It once held wetlands species.	Section 4.3
Susan Allen	How will historic pedestrian and bike traffic be handled on Dump Rd during decommissioning?	Section 4.11
Susan Allen	Will the native plants covering the metal topped vault located on the bluffs edge west of the pier be replaced?	Section 4.3

**Location of Comment Discussion in Draft EIR**

Commenting Agency	Comment	Location of Comment Discussion in Draft EIR
Susan Allen	How will the pipelines left in place be abandoned? Filled with concrete? If left in place and not filled will pipes eventually corrode and create sinkholes? I believe this has happened in an area in Tarpits Park.	Section 2.0, Section 4.7
Susan Allen	Suggest that western most pipes be removed first. This will give workers and MM observers an opportunity to assess how best such work can quickly proceed to avoid unnecessary seal disturbance. Note that the offshore rocks are also a seal haulout site. (One of the three Carpinteria haulout locations.)	Section 2.0
Susan Allen	Exactly what pipes are in the cement bundle....isn't there a water outfall pipe in that location? Where is the electrical line for Gail and Grace located?	Section 2.0
Susan Allen	No work should occur during city beach closure. In recent years Sealwatch has noted a decline in the population and to date have not been able to discern a cause. All work must be done outside the beach closure window.	Section 2.0
Susan Allen	A minimum of two well qualified MM observers must be required and video cameras installed so that interested members of the public can be assured that the seals are being fully protected. Members of Sealwatch have witnessed too many occasions when the seals have not been fully protected.	Section 4.3
Susan Allen	Placing a screen on the beach will need more research and monitoring. Has this been done with harbor seals in other areas and has it been effective?	Section 4.3
Susan Allen	Data collection should be made public on a daily basis.	Section 2.0
Susan Allen	How long will concrete removal on the beach take and will the crane be moved closer to shore for this operation? Will the crane be moved away when not in use— what effect may a new large structure near the haulout have on the seals even when not in motion?	Section 2.0, Section 4.3
Susan Allen	Has the drainage pipe and concrete at the west corner of the Seal Sanctuary overlook been included in any study?	Section 4.3
Susan Allen	Pupping has been as early as January and as late as May with surviving pups.	Section 4.3
Susan Mailheu	I urge you to protect our seals, our land and ocean by abandoning the facility for open space instead of decommissioning to Tier 1. Chevron should be encouraged to do the following to fulfill their obligations instead of attempting to return the land to original state at the environmental cost that would incur. 1. We should evaluate and preserve the existing tree inventory and develop a planting program to renew and extend a native tree canopy, restoring habitat for bees, bats, and birds	Section 2.0, Section 4.3

## **Appendix E**

### **Bluff Retreat Evaluation Report**



**Appendix E – Bluff Retreat Evaluation Report**

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**BLUFF RETREAT EVALUATION REPORT**

**DECOMMISSIONING AND REMEDIATION OF  
THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES  
CARPINTERIA, SANTA BARBARA COUNTY, CALIFORNIA**

**Project No. 2002-5211**

**Prepared for:**

Chevron West Coast Decommissioning Program  
3916 State Street, Suite 200  
Santa Barbara, CA 93105

**Prepared by:**

Padre Associates, Inc.  
369 Pacific Street  
San Luis Obispo, California 93401

**JUNE 2021**



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4	Edge of Bluff 2020, 2018, and 1998
5	Bluff Retreat

## **1.0 INTRODUCTION**

The following Bluff Retreat Evaluation Study has been prepared in support of the proposed pipeline removal located within the coastal bluff area of the Chevron Oil and Gas Processing Facility (OGPF), 5675 Carpinteria Avenue, Carpinteria, Santa Barbara County, California (Project Site). The Project location is shown on Plate 1 - Site Location Map.

## 2.0 PROJECT UNDERSTANDING

The Project Site is located along the coastal bluffs that comprise the southern property boundary of the Chevron OGPF located adjacent to Dump Road in the City of Carpinteria. Currently, Chevron is planning for the removal, future abandonment, and restoration of the OGPF Project Site. Removal of three outfall pipeline bundles from the coastal bluffs is included in the planning of the overall abandonment, remediation, and restoration of the Project Site.

The purpose of this study is to estimate an average annual retreat rate of the coastal bluffs to aide in planning for the removal of the pipeline outfalls located at the Project Site. . Whereas, for the purposes of this study, coastal bluffs will be defined as the edge of sea-cliff located at the crest of the coastal bluff. The bluff retreat rates contained in this study were estimated based on the retreat of the edge of sea-cliff.



### **3.0 WORK PERFORMED**

The scope of work for this investigation was developed through correspondence with Chevron and was conducted in general accordance with our proposal dated April 21, 2020. The services provided by Padre included the following tasks for this study:

- Review of available historical: geologic reports and maps relevant to the Project Site; documented local retreat rates; aerial photography; elevation data (i.e., light detection and range [LiDAR]); and groundwater data;
- Mapping of historical edge of sea-cliff;
- Estimating an average annual retreat rate for use by designers in evaluating an appropriate setback from the top of bluff; and
- Preparation of this report presenting our data and findings.

## **4.0 FINDINGS**

### **4.1 SITE LOCATION**

The Chevron OGPf is comprised of approximately 55-acres of land located within the City of Carpinteria, Santa Barbara County, California. Project related facilities located in proximity to the coastal bluffs include the former marine terminal pipelines and the Platform Grace and Gail pipeline bundle (refer to Plate 2). Approximate latitude and longitude at the center of the coastal bluffs Project Site are:

- Latitude 34° 23' 9.174" North
- Longitude -119° 30' 28.468" West

### **4.2 SITE CONDITIONS**

#### **4.2.1 Existing Land Uses**

The Project Site is located within the Carpinteria Valley within an area that has been historically utilized for agricultural production and oil and gas development support activities. The Project Site was historically operated by Chevron to receive, process, and transport oil and gas produced from offshore oil platforms located within the Santa Barbara Channel beginning in approximately 1959 (Plates 1 and 2). Venoco, Inc. owned and operated the facility from approximately 1999 to 2017. The Project Site was re-acquired by Chevron U.S.A. in 2017 (Padre, 2021).

#### **4.2.2 Topography and Drainage Conditions**

Ground surface elevations at the Project Site range from approximately 5 to 57 feet AMSL south of the Union Pacific Railroad (UPRR) property. The Project Site is bordered by the UPRR, the pier parking lot, and FSBA to the north; the Tee-Time golf driving range and agricultural property to the northeast; Tar pits Park to the west; a residential neighborhood to the northwest; and the Pacific Ocean to the south.

### **4.3 GEOLOGIC CONDITIONS**

#### **4.3.1 Regional Setting**

The Project Site is located along the south margin of the Transverse Ranges Geomorphic Province. These mountains represent a large east-west-trending anticline that has been complexly faulted. The Santa Ynez Mountains and adjacent coastal lowlands, on which the Project Site is situated, are composed of sedimentary rocks ranging in age from Eocene to Holocene (Geotechnical Consultants, 1976; Plate 3).

Quaternary marine terrace deposits that consist primarily of silty and sandy clays to coarse-grained sands underlie the Project Site. These marine terrace deposits overlie the

Miocene Monterey Formation, which consists of marine shales and siltstones. The regional structure of the Monterey Formation in this area is complex with a series of northwest-trending flexures mapped in the sea cliff south of the Project Site. Beneath the Project Site the Monterey Formation is thought to have a near vertical dip (Patry, 1983). The Monterey Formation has been upthrown along the east-west-trending Carpinteria Fault, which is a south-dipping reverse fault. This fault forms the southeastern boundary of the Carpinteria Basin, a faulted syncline containing Eocene through Miocene sediments and up to 4,000 feet of Plio-Pleistocene and younger sediments (Patry, 1983). The Carpinteria Basin has been divided into two distinct areas by the southerly-dipping Rincon Creek thrust fault, which is located approximately 0.4 mile north of the site (Maltby, 1984).

#### **4.3.2 Local Geology**

The maximum depth of recent soil assessment activities completed at the Project Site was approximately 30 feet below ground surface (bgs). Earth materials encountered during assessment activities generally consisted of unconsolidated sediments including poorly-graded sand, well-graded sand, silty sand, clayey sand, silt, and subordinate layers of clay. Native soil at certain areas of the Project Site is covered by thin layers (approximately 6- to 24-inches) of imported fill material and/or concrete. The underlying weathered bedrock surface of the Monterey Formation (logged as siltstone, shale, or hard silt / weathered bedrock) was observed at several drill hole locations at depths ranging from approximately 12 feet to 25 feet bgs. Tar and/or oil seep deposits consistent with documented naturally-occurring petroleum hydrocarbon deposits were found locally in the Monterey Formation. Bedrock materials of the Monterey Formation are typically known and documented to contain naturally-occurring petroleum hydrocarbons that are present at and below the Project Site, as evidenced in the wave-cut platform and sea-cliff. Naturally occurring petroleum hydrocarbons are present as seeps and tar sands, as well as, solidified along bedding planes and in bedrock joints and fractures that are exposed on the sea-cliff (Padre, 2021).

### **4.4 GROUNDWATER CONDITIONS**

#### **4.4.1 Site Specific Hydrogeology**

Quaternary marine terrace deposits (silty and sandy clays to coarse-grained sands) underlie the Chevron OGPF to depths of approximately 10 to 25 feet bgs. These materials overlie the Miocene Monterey Formation, which is approximately 1,450 feet thick and is classified as a non-water bearing formation due to its low storage capacity (Geotechnical Consultants, 1976). Groundwater was generally not encountered within drill holes that Padre has historically advanced at the northern and eastern areas of the OGPF during soil and groundwater assessment activities. Where present, first subsurface water was encountered in the marine terrace deposits within the western portions of the OGPF at depths ranging from approximately 5 feet to 22 feet bgs and is perched above the Monterey Formation. Depth to water measurements recorded at the OGPF groundwater monitoring well locations on February 20, 2019, ranged from 4.73 feet (MW-O/G-8) to 19.02 feet (MW-O/G-10) below the tops of the well casings, corresponding to groundwater elevations of 37.92 feet and 44.12 feet AMSL, respectively. Potentiometric surface elevation data collected on February 20, 2019, at the

existing groundwater monitoring well network indicate that the groundwater flow direction beneath the OGPF is toward the north to northwest.

## 5.0 METHODS

### 5.1 LIDAR DATA ANALYSIS

LiDAR elevation data was obtained for the years of 2020, 2018, and 1998 (Table 1). The LiDAR data was collected via aircraft using laser scanning technology to capture coordinate location data as northing, easting, and elevation data as a point cloud. The point cloud data was interpolated by the data collection agencies and provided to Padre as polyline feature contour data delineating the sea-cliff at the Project Site. The edge of sea-cliff was delineated in geographic information systems (GIS) from the contour LiDAR data for each data set: 2020; 2018; and 1998 (Plate 4).

**Table 1. Summary of LiDAR Data**

Year	Source
2020	KCSI Aerial Patrol
2018	NOAA USGS Lidar: Southern CA Wildfires (Job629750_ca2018_wildfires)
1998	NASA/NOAA/USGS ATM Lidar: West Coast, Post-El Nino (CA, OR, WA) (Job629769_1998_SpringWC)

### 5.2 HISTORICAL AERIAL PHOTOGRAPH ANALYSIS

Historical aerial photographs corresponding to the years of LiDAR data were used to fine tune the delineation of the top edge of the coastal bluff (Table 2). Aerial photographs were viewed in two-dimension (2D or planar view) and in three-dimension (3D) in ArcMap and Google Earth Pro, respectively. It should be noted that a 1998 aerial photograph of sufficient quality for analysis was unavailable for use at the time of this study; however, a 1994 aerial photograph was available from Google Earth Pro that generally agreed with the 1998 edge of coastal bluff and was used as background imagery for display purposes (Plate 4).

**Table 2. Summary of Historical Aerial Photographs**

Year	Source
2020	KCSI Aerial Patrol
2018	Google Earth Pro Image
1994	Google Earth Pro Image

### 5.3 ESTIMATED AVERAGE ANNUAL RETREAT RATE

Annual retreat rates for the edge of the coastal bluff at the Project Site were estimated at eleven points that were selected based on proximity to the proposed pipeline landfall removal locations (Plate 5). Additionally, retreat rates were estimated at locations between the pipeline



landfall locations where significant retreat was evidenced by the historical LiDAR data and aerial photographs. Estimated annual retreat rates shown on Plate 5 were calculated using the change in distance of the 2020 and 1998 LiDAR defined edge of bluff divided by the 22 years separating the collection of the data sets. An estimated average annual retreat rate of 14 centimeters per year (cm/yr) for the Project Site was calculated based upon the average of the eleven point specific retreat rates displayed on Plate 5.

## 6.0 DISCUSSION

The Project Site is composed of a non-water bearing Miocene aged Monterey Shale coastal bluff that is continually exposed to the effects of coastal processes contributing to weathering and erosion of the bluff. Whereas, the Monterey is non-water bearing, ground water does not influence the internal weathering of the shale unit. Therefore, wave action is the primary hydraulic weathering process affecting the coastal bluff at the Project Site, with the changing tides and wave action expanding existing fractures and joints to loosen material that is eroded away. Large winter storm events are the primary source of bluff erosion and generally remove enough material in one or two events to equal the estimated average annual erosion rate: bluff erosion and retreat generally do not take place as incremental events happening over the course of the year, but rather the result of one or two major events (von Thury, 2013). It should be noted that major erosional events may not occur annually. The retreat rates estimated in this study are based on LiDAR data collected in the most recent 20 years; therefore, if LiDAR were available over a larger time period, the rates may vary. Although, vegetation removal or tree falls; rainfall and associated runoff; and anthropogenic installations such as drainage outfalls and irrigation can contribute to weathering and erosional processes, they are not considered to be major factors contributing to bluff erosion and retreat at the Project Site.

Additional factors such as aspect, tidal influence, and rock strength also contribute to the range of estimated retreat rates at the Project Site: 6 to 28 cm/yr (Plate 5). The retreat rates at the lower end of the range are found at locations where the bluff has been armored at the toe with riprap (large boulders) or the bluff top edge of cliff was reinforced with a concrete pad. In general, higher rates of retreat were associated with sections of the bluff with a western aspect.

An estimated average annual retreat rate of 14 cm/yr was calculated for the Project Site from a comparison of 2020 versus (vs.) 1998 LiDAR data. In 2013, a University of California, Santa Barbara Master of Science Thesis, *Using Laser Scanning Technology to Monitor Coastal Erosion and Sea-Cliff Retreat in Southern Santa Barbara County, California*, estimated regional erosion rates for the stretch of bluff in the vicinity of Tar Pits Park, the Carpinteria Pier, and the Carpinteria Bluffs Nature Preserve to be approximately 11 cm/yr. The 2013 study calculated estimated annual erosion rates using 2010 vs. 1998 and 1997 NOAA LiDAR data. The 1998 NOAA LiDAR data set used in the 2013 study is the same elevation data set that was used in the current study conducted by Padre (von Thury, 2013). The retreat rates estimated for both this study and the von Thury 2013 study generally agree with a 2005 study by Gary Griggs et al that calculated retreat rates based on monument measurements at various locations in southern Santa Barbara County between Point Conception and Rincon Point to range from 8 to 30 cm/yr.

## **7.0 CLOSURE AND LIMITATIONS**

Padre prepared the findings and data presented herein in accordance with generally accepted geologic and geotechnical engineering practices at the time and location that this report was prepared. No other warranty, express or implied, is made.

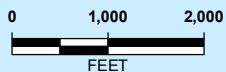
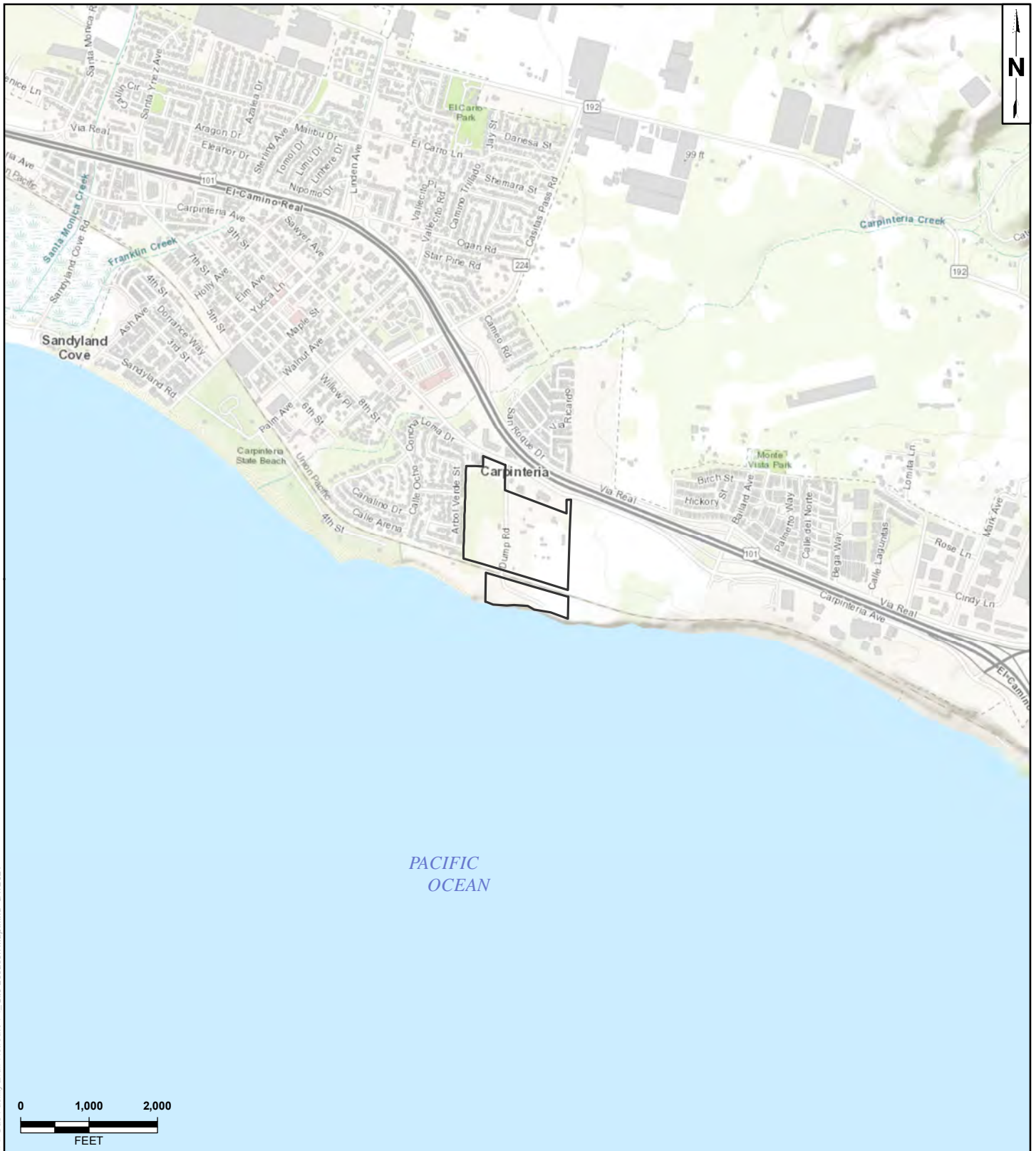
Soil and rock materials are typically not homogenous in type, strength, and other geotechnical properties and can vary between points of observation and exploration. In addition, groundwater and soil moisture conditions can vary seasonally and for other reasons. Padre does not and cannot have a complete knowledge of the subsurface conditions underlying a site. The data presented in this report are based upon the findings at the points of interpolation and extrapolation of information between and beyond those points of analysis.

## 8.0 REFERENCES

- Geotechnical Consultants (1976), Hydrogeologic Investigation of Carpinteria Groundwater Basin for Carpinteria Water District, dated June 1976.
- Google Earth Pro (2020), Historical Imagery: 2018 and 1994, program accessed May 21 - 28, 2021.
- Griggs, Gary B., K. Patsch, and L. Savoy (2005), Living with the California Coast, University of California Press, Los Angeles, pages 87, 356, 362, 371, 378, 382, and 391.
- KCSI Aerial Patrol (2020), Topographic and Aerial Photography Survey.
- Maltby, D., 1984, Map of the Carpinteria Area and Vicinity, Santa Barbara County, California, Showing Water Level Contours for March 1982, USGS Water Resources Investigations Report 83-4273.
- Minor, S.A., Kellogg, K.S., Stanley, R.B., Gurrola, L.D., Keller, E.A., and Brandt, T.R. (2009), Geologic Map of the Santa Barbara Coastal Plain Area, Santa Barbara County, California, 1:25,000, 2009.
- NOAA (2021), Data Access Viewer <https://coast.noaa.gov/dataviewer/#/>, site accessed May 21, 25, and 27, 2021. NOAA USGS Lidar: Southern CA Wildfires (Job629750\_ca2018\_wildfires) NASA/NOAA/USGS ATM Lidar: West Coast, Post-El Nino (CA, OR, WA) (Job629769\_1998\_SpringWC)
- Padre Associates, Inc. (2021), Sampling and Analysis Plan / Interim Remedial Action Plan, Carpinteria Oil and Gas Processing Facility, 5675 Carpinteria Avenue, Carpinteria, Santa Barbara County, California, January 2021.
- Patry, J.J. (1983), Property Transfer, Chevron USA Production Department, Carpinteria, California. von Thury, Eva E. (2013), Using Laser Scanning Technology to Monitor Coastal Erosion and Sea-Cliff Retreat in Southern Santa Barbara County, California (Master's thesis), University of California, Santa Barbara, June 2013. Available from ProQuest Dissertations & Theses Global database. (UMI No. 1545851) <[http://gateway.proquest.com/openurl?url\\_ver=Z39.88-2004&rft\\_val\\_fmt=info:ofi/fmt:kev:mtx:dissertation&res\\_dat=xri:pqm&rft\\_dat=xri:pqdiss:1545851](http://gateway.proquest.com/openurl?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&res_dat=xri:pqm&rft_dat=xri:pqdiss:1545851)>

## PLATES





**LEGEND:**

Approximate Limits of Chevron-Owned Land

**MAP EXTENT:**



Source: Esri Online Topo Basemap, County of Santa Barbara  
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
 Notes: This map was created for informational and display purposes only.

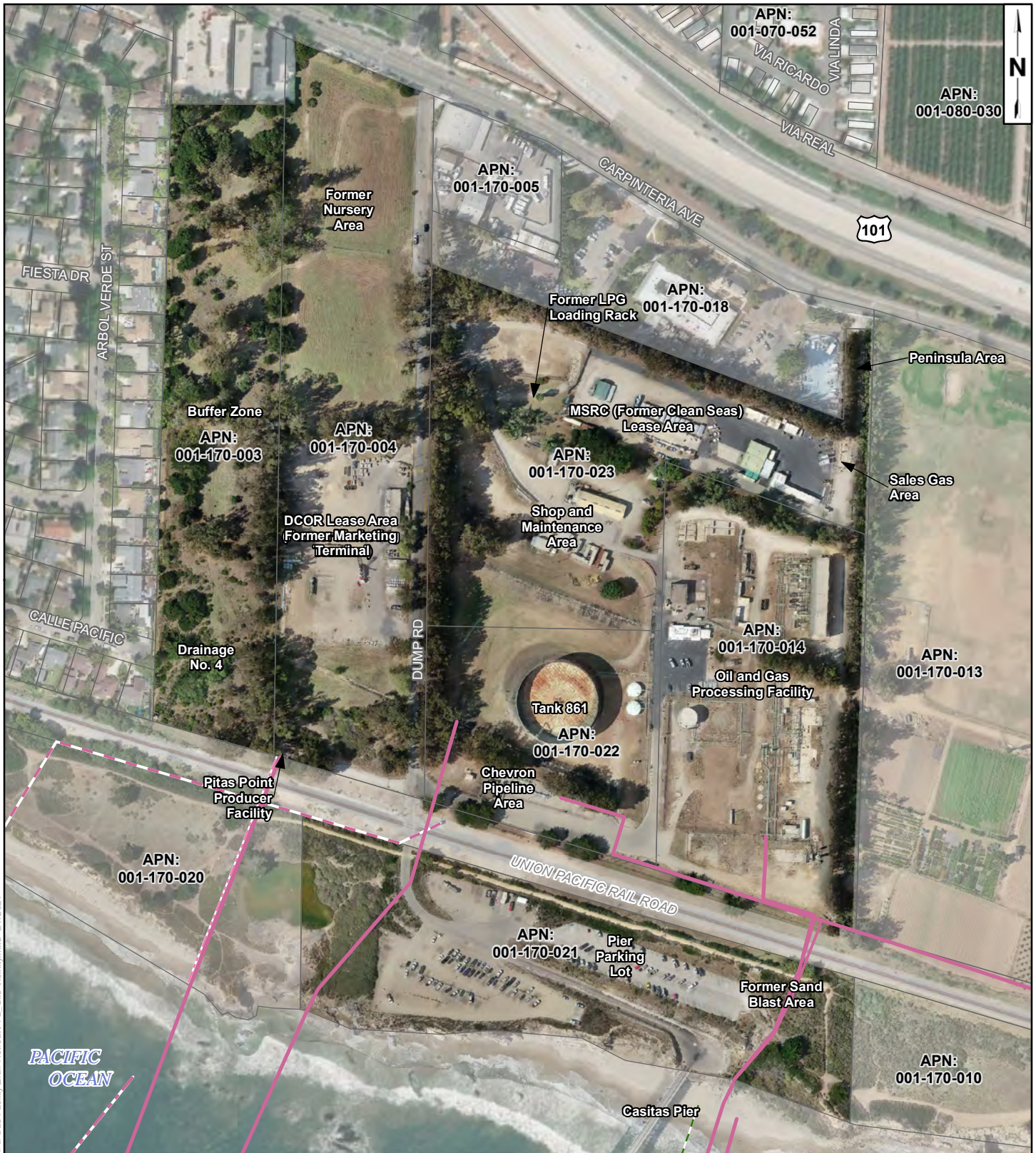
**padre**  
 associates, inc.  
 ENGINEERS, GEOLOGISTS &  
 ENVIRONMENTAL SCIENTISTS

PROJECT NAME: BLUFF RETREAT STUDY CARPINTERIA PLANT DECOMMISSIONING SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 2002-5211	DATE: June 2021

# SITE LOCATION MAP

PLATE  
1

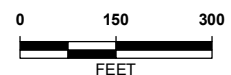




**LEGEND:**

Assessor Parcel Boundary

- Abandoned Power Cable
- Abandoned Pipeline Created from 2013 NOAA Chart
- Oil Pipeline
- Abandoned Pipeline
- Inferred Pipeline



Source: KCSI Aerial Patrol 2020, Assessor parcels downloaded from County of Santa Barbara  
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
 Notes: This map was created for informational and display purposes only.

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 associates, inc.  
 ENGINEERS, GEOLOGISTS &  
 ENVIRONMENTAL SCIENTISTS

PROJECT NAME: BLUFF RETREAT STUDY  
 CARPINTERIA PLANT DECOMMISSIONING  
 SANTA BARBARA COUNTY, CA

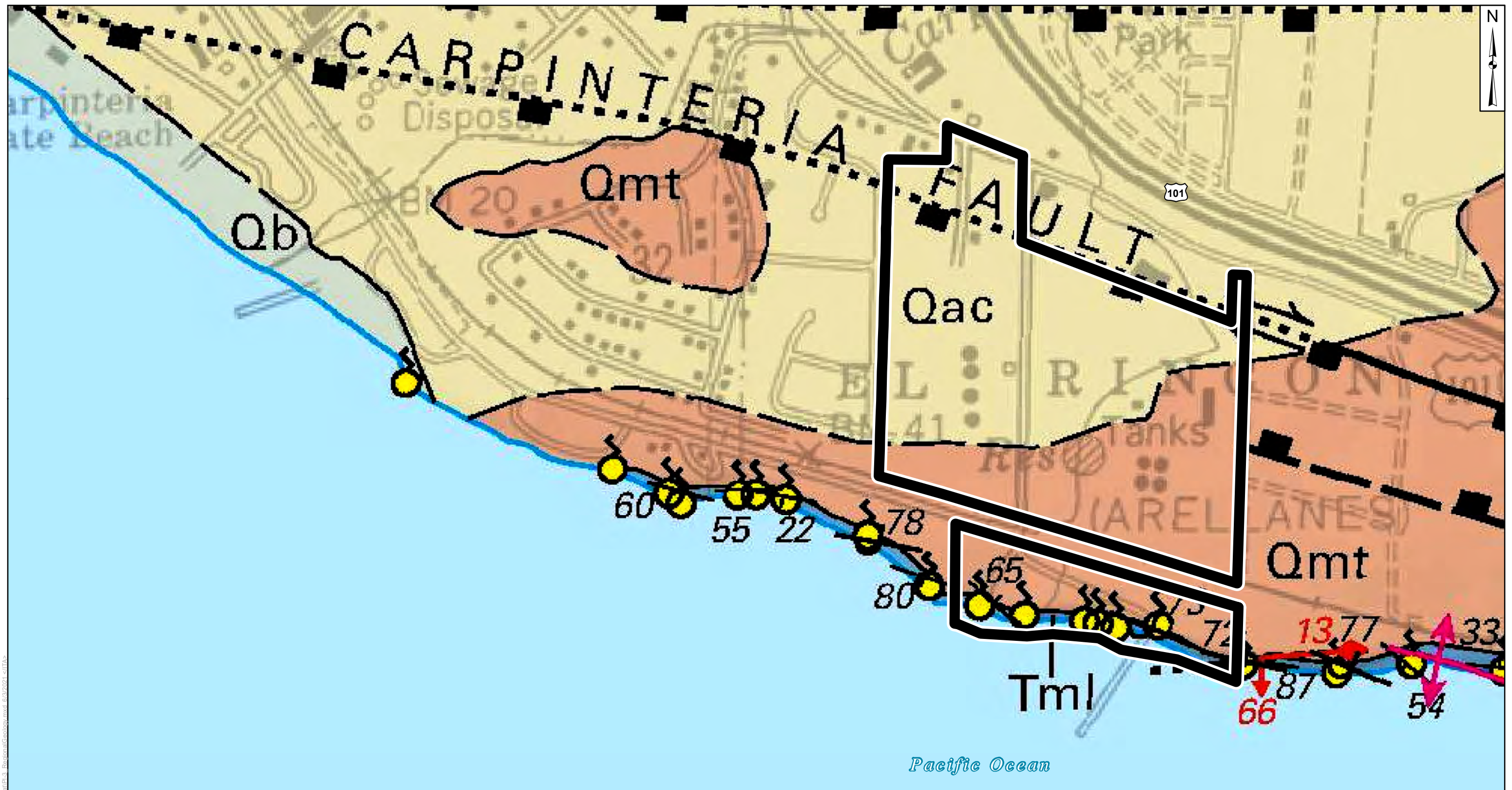
PROJECT NUMBER: 2002-5211

DATE: June 2021

# SITE VICINITY MAP

PLATE  
 2





**LEGEND:**

Approximate Limits of Chevron-Owned Land

**Geologic Unit:**

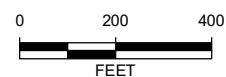
Beach Deposits (Qb)

Alluvium and Colluvium (Qac)

Marine-Terrace Deposits (Qmt)

Monterey Formation, Lower Calcareous Unit (Tml)

**MAP EXTENT:**



Source: Minor, S.A., et. al. (2009), Geologic map of the Santa Barbara Coastal Plain Area, Santa Barbara County, California.  
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
 Notes: This map was created for informational and display purposes only.

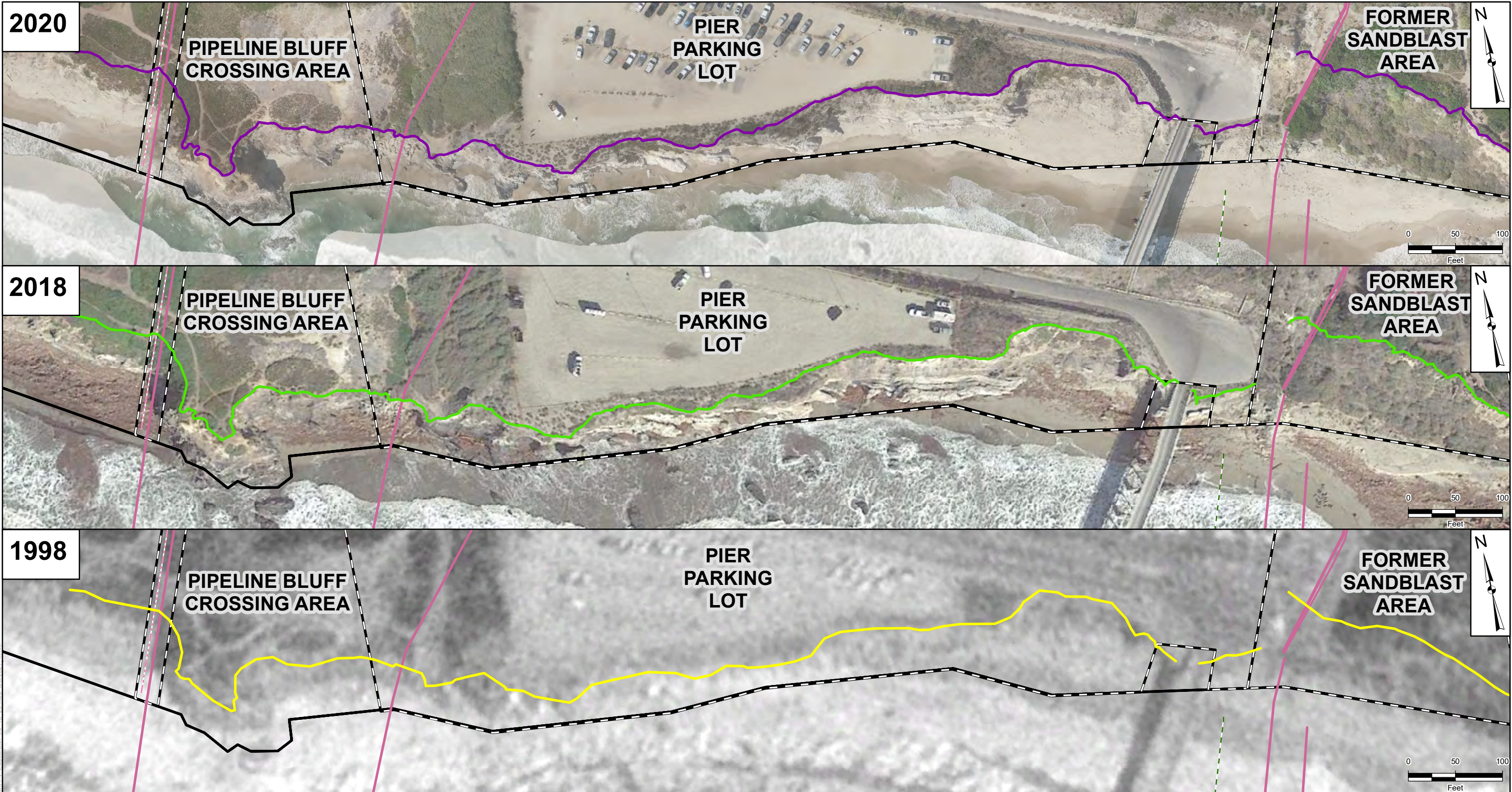
**padre**  
 associates, inc.  
 ENGINEERS, GEOLOGISTS &  
 ENVIRONMENTAL SCIENTISTS

PROJECT NAME: BLUFF RETREAT STUDY  
 CARPINTERIA PLANT DECOMMISSIONING  
 SANTA BARBARA COUNTY, CA  
 PROJECT NUMBER: 2002-5211  
 DATE: June 2021

**REGIONAL GEOLOGY  
 MAP**

PLATE  
**3**





**LEGEND:**

- |                                             |                          |                  |
|---------------------------------------------|--------------------------|------------------|
| Edge of Bluff Defined by LiDAR Contour Data | -- Abandoned Power Cable | Operational Area |
| Edge of Bluff 2020                          | Oil Pipeline             | Project Site     |
| Edge of Bluff 2018                          | Inferred Pipeline        |                  |
| Edge of Bluff 1998                          |                          |                  |

**MAP EXTENT:**



Source: KCSI Aerial Patrol 2020; 2018 Ca Wildfires; 1998 Spring West Coast; and 2018 and 1994 Google Pro Images.  
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
 Abbreviations:  
 cm/yr = centimeters per year  
 LIDAR = Light Detection and Range  
 Notes: 1) 1998 edge of cliff overlay 1994 aerial photo due to poor image quality of 1998 aerial photograph.  
 2) This map was created for informational and display purposes only.



PROJECT NAME: BLUFF RETREAT STUDY CARPINTERIA PLANT DECOMMISSIONING SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 2002-5211	DATE: June 2021

**EDGE OF BLUFF 2020,  
2018, AND 1998**

PLATE  
4





**LEGEND:**

- Edge of Bluff Defined by LiDAR Contour Data

Edge of Bluff 2020

Edge of Bluff 2018

Edge of Bluff 1998
- 28 Retreat Rate (cm/yr, 1998 - 2020)

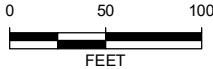
Abandoned Power Cable

Abandoned Pipeline Created from 2013 NOAA Chart
- Oil Pipeline

Inferred Pipeline

Operational Area
- Project Site

**MAP EXTENT:**



Source: KCSI Aerial Patrol 2020, 1998 Spring West Coast, 2018 Ca Wildfires  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Abbreviations:  
cm/yr = centimeters per year  
LiDAR = Light Detection and Range  
Notes: This map was created for informational and display purposes only.



PROJECT NAME: BLUFF RETREAT STUDY CARPINTERIA PLANT DECOMMISSIONING SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 2002-5211	DATE: June 2021

**BLUFF RETREAT**

PLATE  
5

Map Project: Carpinteria Oil & Gas Facility/Bluff Retreat/PL5\_RetreatRates.mxd 6/6/2021 c:\t\as



## **Appendix F**

### **Cultural Resources Assessment**

## **Appendix F – Cultural Resources Assessment**

<b><u>Section</u></b>	<b><u>Page #</u></b>
Cultural Resources Assessment .....	F-1

# **CULTURAL RESOURCES ASSESSMENT DECOMMISSIONING AND REMEDIATION OF THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES**

**CARPINTERIA, SANTA BARBARA COUNTY,  
CALIFORNIA**

**Project No. 2002-5211**

**Prepared for:**

Chevron West Coast Decommissioning Program  
3916 State Street, Suite 200  
Santa Barbara, California 93105

**Prepared by:**

Rachael J. Letter, M.S., RPA, Christopher J. Letter, B.A., and Val K. Kirstine

Padre Associates, Inc.  
369 Pacific Street  
San Luis Obispo, California 93401  
(805) 786-2650

**OCTOBER 2021**



The contents of this Appendix are confidential, and it will be available only upon request and based on specific needs.

## **Appendix G**

### Noise Assessment



**Appendix G – Noise Assessment**

<b><u>Section</u></b>	<b><u>Page #</u></b>
Noise Management Plan.....	G-1

# Padre Associates, Inc. Carpinteria Noise Management Plan

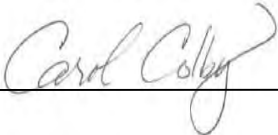
September 14, 2023

Prepared for:

Padre Associates, Inc.  
1861 Knoll Drive  
Ventura, CA 93003

Prepared by:

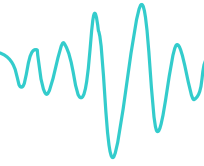
Behrens and Associates, Inc.  
2320 Alaska Avenue  
El Segundo California, 90245



Carol Colby  
Acoustical Engineer



Jason Peetz  
Engineering Manager



## 1. Introduction

### 1.1 Purpose and Scope

The purpose of this study is to assess potential noise impacts associated with the demolition and remediation of the Carpinteria Oil and Gas Processing Facilities. The plant is located at 5675 and 5663 Carpinteria Avenue in Carpinteria, California. The assessment was conducted to evaluate whether the predicted noise levels of the demolition, piping removal, tank and vessel removals, tree removals, soil remediation, backfill, compaction, final grading and restoration activities will impact the adjacent properties and provide mitigation recommendations, if necessary, to reduce the construction activity noise levels at the surrounding properties.

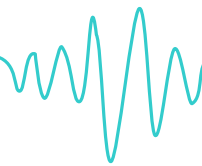
The following is provided in this report:

- A brief description of noise fundamentals
- A description of the project noise standards
- Documentation of measured ambient noise levels in the project area
- An analysis of the potential noise impacts of the construction activities associated with the decommissioning of the Carpinteria Plant.

Figure 1-1 shows the project site.



Figure 1-1 Carpinteria Plant Project Site



## 2. Noise Fundamentals

Sound is most commonly experienced by people as pressure waves passing through air. These rapid fluctuations in air pressure are processed by the human auditory system to produce the sensation of sound. The rate at which sound pressure changes occur is called the frequency. Frequency is usually measured as the number of oscillations per second or Hertz (Hz). Frequencies that can be heard by a healthy human ear range from approximately 20 Hz to 20,000 Hz. Toward the lower end of this range are low-pitched sounds, including those that might be described as a “rumble” or “boom”. At the higher end of the range are high-pitched sounds that might be described as a “screech” or “hiss”.

Environmental noise generally derives, in part, from a combination of distant noise sources. Such sources may include common experiences such as distant traffic, wind in trees, and distant industrial or farming activities. These distant sources create a low-level “background noise” in which no particular individual source is identifiable. Background noise is often relatively constant from moment to moment, but varies slowly from hour to hour as natural forces change or as human activity follows its daily cycle.

Superimposed on this low-level, slowly varying background noise is a succession of identifiable noisy events of relatively brief duration. These events may include the passing of single-vehicles, aircraft flyovers, screeching of brakes, and other short-term events. The presence of these short-term events causes the noise level to fluctuate. Typical indoor and outdoor A-weighted sound levels are shown in Figure 2-1. Detailed acoustical definitions have been provided in Appendix A.

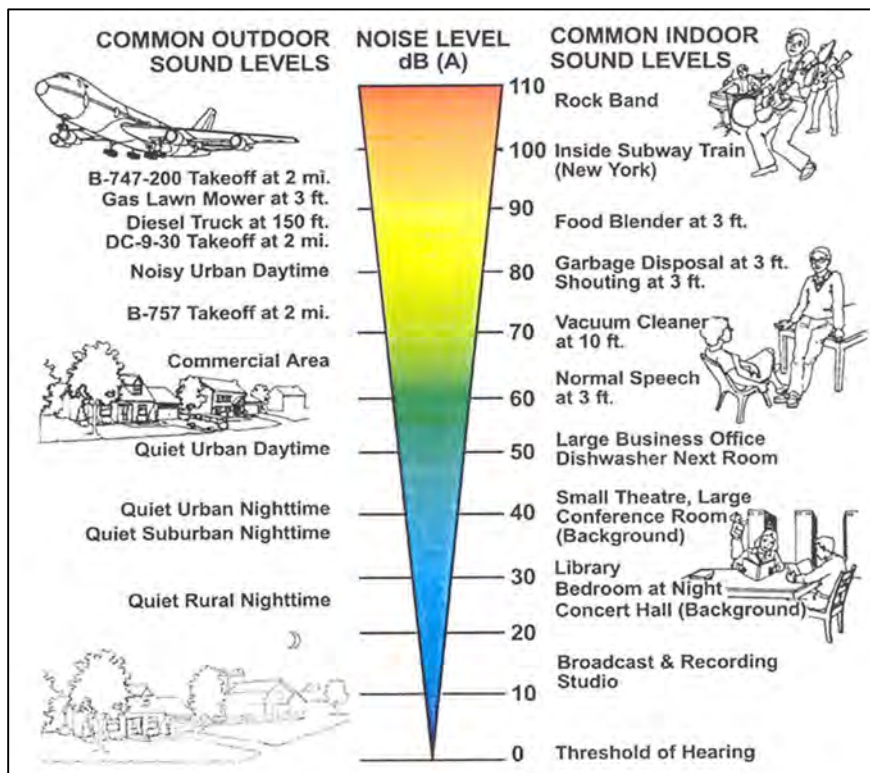
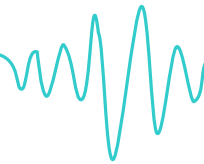


Figure 2-1 Typical Indoor and Outdoor A-Weighted Sound Levels



## 3. Noise Standards

---

The City of Carpinteria has “Environmental Review Guidelines” for “Temporary Construction Noise” that states:

“Temporary construction noise which exceeds 75 dB(A) CNEL for 12 hours within a 24-hour period at residences would be considered significant. Additionally, where temporary construction noise would substantially interfere with normal business communication, or affect sensitive receptors, such as day care facilities, hospitals or schools, temporary impacts would be considered significant.

For the noise level analysis, an increase in noise would be considered significant if any of the following conditions occurred for an extended period of time:

- An increase in noise levels of 10 dB(A) if the existing noise levels are below 55 dB(A) (creates a potential significant nuisance effect);
- An increase in noise levels that exceeds noise level standards if the existing noise levels are between 55 and 60 dB(A) (Violates existing regulatory requirement); or
- An increase in noise levels of 5 dB(A) if the existing noise levels are above 60 dB(A) (violates or worsens a violation of an existing regulatory requirement).

...Project noise impacts are significant if they raise existing (ambient) levels from below to above the applicable criterion or if noise resulting from the project increases average ambient levels which are already above the applicable criterion or if noise resulting from the project increases average ambient levels which are already above the applicable criterion by more than three dB, or if project-generated noise results in a five dB increase and the resulting level remains below the maximum considered normally acceptable. These criteria for significance recognize (1) the threshold levels of acceptability established by the local government agencies; (2) that once the threshold level has been passed, any noticeable change above that level (a three dB increase) results in a further degradation of the noise environment; and (3) that a clearly noticeable change (a five dB increase) in the noise environment, even though the threshold has been reached, is also a significant impact, because people respond to changes in noise level regardless of the absolute level of the noise.”

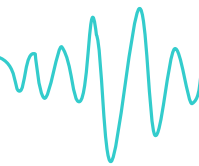
The noise level assessment of the proposed demolition, pipeline removal, soil remediation and final grading activities will be evaluated using the increase in noise level thresholds detailed in the “Environmental Review Guidelines” along with the City of Carpinteria Code of Ordinance and General Plan as defined below.

The City of Carpinteria Code of Ordinances and General Plan define acceptable noise levels for noise impact assessment of the project activities.

Noise Section 14.20.110 of the Code of Ordinances states:

“The noise level emanating from any commercial use or operation shall not exceed five (5) decibels above the ambient level of the area.”





This section of the Code of Ordinances does not mention construction operations specifically, but it can be used as a guideline to assess the impact of demolition activities on the surrounding properties along with the City of Carpinteria “Environmental Review Guidelines” for “Temporary Construction Noise”.

The City of Carpinteria General Plan Noise Element provides a “Noise Compatibility Matrix” developed to reduce high levels of noise exposure created by roadway traffic, industrial and commercial activities. These guidelines are divided into “normally acceptable”, “conditionally acceptable”, “normally unacceptable”, and “clearly unacceptable” categories. The upper range of the normally acceptable noise levels shown in in Figure N-3 of the “City of Carpinteria Land Use/Noise Compatibility Matrix” of the general plan are summarized in Table 3-1. The exhibit limits noise levels in terms of Ldn or CNEL. The CNEL limits will be used for this project for a more conservative assessment.

**Table 3-1 Community Noise Exposure Guidelines**

<b>Land Use Category</b>	<b>Normally Acceptable Community Noise Exposure, dBA CNEL</b>
Residential – Low Density Single Family, Duplex, Mobile Homes	55
Residential – Multi-Family	60
Transient Lodging – Motels, Hotels	65
Schools, Libraries, Churches, Hospitals, Nursing Homes	70
Playgrounds, Neighborhood Parks, open space/walking	70
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75
Office Buildings, Business Commercial And Professional	70
Industrial, Manufacturing, Utilities, Agriculture	75

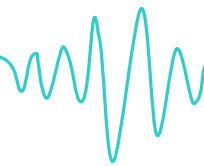
The community noise exposure guidelines contained in the City of Carpinteria General Plan are guidelines for new developments and should not be considered strict limits for temporary construction projects. With this in mind, the published guidelines will be used to assess the noise impact of the demolition activities on the surrounding properties.

The Carpinteria Plant location is zoned in an industrial land use category; however, it is surround by residential single-family, commercial, and open space/walking trail land use categories. The proposed demolition activities of the decommissioning of the Carpinteria Plant will occur strictly between the daytime hours of 7:00am to 5:00pm. Figure 3-1 shows the zoning map of the Carpinteria Plant and adjacent properties.



**Figure 3-1 Zoning Map**

Utilizing the City of Carpinteria Code of Ordinances, General Plan and “Environmental Review Guidelines” for “Temporary Construction Noise” “normally acceptable” noise levels, a CNEL noise impact assessment was conducted. The CNEL acceptable noise levels as shown Table 3-1 for the “normally acceptable” community noise exposure were utilized along with the City of Carpinteria Code of Ordinances five decibels above ambient level limit. Throughout this assessment, the noise levels are predicted at a point on the nearest bordering property line, nearest the construction activity locations.



## 4. Ambient Sound Level Survey

### 4.1 Ambient Survey Procedure

Three Type 1 sound level meters were deployed nearby the site to conduct the ambient sound level survey. The sound level meters conform to Type 1 as per ANSI S1.4 Specifications for Sound Level Meters. The microphones associated with the sound level meters were placed approximately 5 feet above the ground and at least 10 feet from any reflective surfaces at the location shown in Figure 4-1. The measurement procedure was conducted in compliance with International Standard ISO 1996-2 *Acoustics- Description, measurement and assessment of environmental noise*. The sound level meters were calibrated before and after the measurement period. The instrumentation details are presented in Table 4-1.

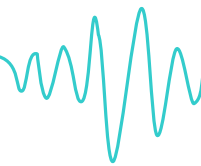
Measurement Locations 1 through 3 were positioned on the north, west and south property boundaries of Carpinteria Plant site to document the ambient noise levels near the adjacent noise sensitive properties as shown in Figure 4-1.

**Table 4-1 Instrumentation Details**

Location	Instrumentation	Manufacturer/Model	Serial Number
1	Sound Level Meter	SVANTEK SVAN 971 Sound Level Meter	56971
2	Sound Level Meter	SVANTEK SVAN 971 Sound Level Meter	74351
3	Sound Level Meter	SVANTEK SVAN 971 Sound Level Meter	40386



**Figure 4-1 Noise Monitoring Locations**



The sound level meters were deployed on Wednesday April 7, 2021 and programmed to continuously monitor and record sound levels utilizing the A-weighted decibel scale (dBA). The sound level meters were retrieved on Friday April 9, 2021. Table 4-2 shows the daytime, evening, nighttime and CNEL sound levels for April 8, 2021. Appendix C shows the tabulated measured sound levels.

**Table 4-2 Measured Average CNEL Sound Levels (April 8, 2021)**

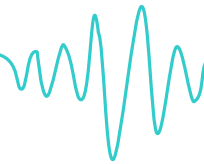
Location	Land Use Category	Daytime	Evening	Nighttime	CNEL, (dBA)
1	Commercial (70 dBA CNEL)	65.3	61.3	61.1	68.5
2	Single Family Residential (55 dBA CNEL)	54.7	55.9	53.3	60.4
3	Coastal Industrial (75 dBA CNEL)	65.9	68.6	54.6	67.7

The measured ambient CNEL sound levels at Location 1 and Location 3 are below the “normally acceptable” community noise exposure sound level of 70 CNEL for commercial and 75 CNEL for coastal industrial, respectively. The measured ambient CNEL sound level at Location 2 is above the “normally acceptable” community noise exposure sound level of 55 CNEL for single-family residential. Therefore, the City of Carpinteria Code of Ordinances and City of Carpinteria “Environmental Review Guidelines” for “Temporary Construction Noise” allowable (5) decibels above ambient level have been utilized for the noise impact assessment.

The weather conditions were captured by a nearby weather station (KCACARPI39) as reported by [www.wunderground.com](http://www.wunderground.com). The weather station is located approximately 0.75 miles northwest of the Carpinteria Plant. The recorded temperatures for the weather station ranged between 48.0 degrees and 73.2 degrees Fahrenheit during the measurement period. Wind speeds ranged between 0 mph and 7.4 mph.

The recorded temperature, wind speed, wind direction, and pressure are displayed graphically in Appendix B.





## 5. Carpinteria Plant Construction Activities Noise Modeling

### 5.1 Methodology

To predict the noise levels generated by planned construction activities at the site, three noise models were developed with the use of three-dimensional computer noise modeling software. All models in this report were developed with SoundPLAN 8.0 software using the ISO 9613-2 standard. Noise levels are predicted based on the locations, noise levels and frequency spectra of the noise sources, and the geometry and reflective properties of the local terrain, buildings and barriers. To ensure a conservative assessment, the ISO 9613-2 standard assumes light to moderate winds are blowing from the source to receptor.

Three construction activities (Scenario 1 through Scenario 3) were modeled for the Carpinteria Plant utilizing the equipment list and layout provided by Padre Associates, Inc. The three modeled scenario activity locations and descriptions are detailed in Table 5-1 and were provided by Padre Associates, Inc. The source sound level data used in the modeling for each construction activity is shown in Table 5-2 through Table 5-4.

**Table 5-1 Modeled Scenario Detailed Descriptions**

<b>Scenario</b>	<b>Scenario Location Description</b>	<b>Scenario Activity Details</b>
Scenario 1	Demolition at Former Marketing Terminal Area	Demolition
Scenario 2	Demolition at Southeast Corner of Main Plant Area	Piping removal, demolition of tanks and vessels and tree removal
Scenario 3	Demolition of MSRC Plant Area	Soil remediation, backfill and compaction

The sound pressure level at 50 feet and usage factors published in the U.S. Department of Transportation Federal Highway Administration Construction Noise Handbook were used as an input for the Scenario 1 demolition noise model. The Scenario 1 model represents a peak day of demolition activities which accounts for a worst-case scenario in noise impact.

The sound pressure level at 50 feet published in the U.S. Department of Transportation Federal Highway Administration Construction Noise Handbook were used as an input for the piping removal, soil remediation and final grading noise models (Scenario 2 and Scenario 3). However, the usage factors applied to the sound pressure levels of all the proposed equipment for the remaining three construction activities were provided by Padre Associates, Inc. The usage factor for the chainsaw to be utilized in the tree removal activities in Scenario 2 was obtained from the U.S. Department of Transportation Federal Highway Administration Construction Noise Handbook.

There will also be trucks hauling material from the site for all the construction activities. Padre Associates, Inc. approximates 36 trucks will be coming in and out of the site daily and be limited to the hours between 9am to 4pm, to avoid peak traffic hours. The 36 trucks traveling per day represent the maximum number of trucks on a peak day and not an average number of trucks that will be hauling material. To account for this, the truck route was modeled using the Traffic Noise Model (TNM 2.5) calculation methodology for heavy trucks in the modeling software. Figure 5-1 shows the modeled activity locations and truck route location. Figure 5-2 shows the location of the assessed receptors.

Appendix D provides noise level source details for the modeled scenario equipment, truck haul noise source input and output data, and noise level contribution of the modeled equipment at all receptors evaluated.





Figure 5-1 Scenario 1 through Scenario 3 Activities and Truck Route Locations

Table 5-2 Scenario 1 Modeled Construction Equipment Sound Power Levels and Usage Factors

Equipment	Quantity	Individual Component Sound Power Level (dBA)	Daytime Usage Factor (%)
Excavator	2	118.9	40
Track Loader	1	96.8	40
Heavy Truck Route*	36*	N/A	N/A

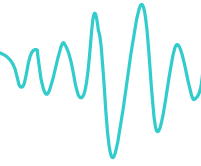
\* Sound power level is calculated using the Federal Highway Administration Traffic Noise Model (TNM 2.5) methodology generated in the modeling software

Table 5-3 Scenario 2 Modeled Construction Equipment Sound Power Levels and Usage Factors

Equipment	Quantity	Individual Component Sound Power Level (dBA)	Daytime Usage Factor (%)
Excavator	2	118.9	33*
Track Loader	2	96.8	33*
Boom Lift	1	119.0	33*
Dozer	1	118.9	33*
Backhoe	2	114.4	33*
Chainsaw	1	119.0	20
Heavy Truck Route*	36**	N/A	N/A

\* Usage Factor was provided by Padre Associates, Inc.

\*\* Sound power level is calculated using the Federal Highway Administration Traffic Noise Model (TNM 2.5) methodology generated in the modeling software

**Table 5-4 Scenario 3 Modeled Construction Equipment Sound Power Levels and Usage Factors**

<b>Equipment</b>	<b>Quantity</b>	<b>Individual Component Sound Power Level (dBA)</b>	<b>Daytime Usage Factor (%)</b>
Excavator	1	118.9	33*
Track Loader	2	96.8	33*
Dozer	1	118.9	33*
Grader	1	118.7	33*
Backhoe	2	114.4	33*
Soil Compactor	1	116.7	33*
Heavy Truck Route*	36**	N/A	N/A

\* Usage Factor was provided by Padre Associates, Inc.

\* \* Sound power level is calculated using the Federal Highway Administration Traffic Noise Model (TNM 2.5) methodology generated in the modeling software

Community noise equivalent levels (CNEL) are 24-hour noise metrics. To calculate the CNEL values associated with the project, the FHWA equipment usage factors were used for daytime hours when the equipment will be in use and a usage factor of zero was used for evening and nighttime hours when the equipment will not be in use.

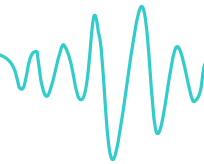


Figure 5-2 Modeled Receptor Locations

## 5.2 Scenario 1 Activities Noise Modeling Results

A noise model was generated for the demolition activities at the Former Marketing Terminal Area. The noise modeling predicts the community noise equivalent levels (CNEL) at the site and adjacent surroundings.

The results of the noise modeling are presented in Table 5-5. The calculated noise levels represent only the contribution of the demolition activities and do not include ambient noise. Actual field sound level measurements may vary from the modeled noise levels due to other noise sources such as traffic, other human activity, or environmental factors.

**Table 5-5 Scenario 1 Activities Noise Modeling Results**

<b>Receptor</b>	<b>Receptor Land Use Category</b>	<b>Predicted Activities Noise Levels CNEL, dBA</b>
R1	Commercial	53.2
R2	Commercial	52.6
R3	Commercial	51.2
R4	Single-Family Residential	52.7
R5	Single-Family Residential	57.2
R6	Single-Family Residential	56.9
R7	Open Space/Walking Trail (Recreational)	52.1
R8	Commercial	58.9
R9	Office Buildings, Business Commercial & Professional	53.2
R10	Commercial	48.3
R11	Commercial	47.8
R12	Commercial	46.1
R13	Open Space/Walking Trail (Recreational)	38.3
R14	Open Space/Walking Trail (Recreational)	37.1
R15	Open Space/Walking Trail (Recreational)	35.2
<b>“Normally Acceptable” CNEL for Single Family Residential/Commercial/ Recreational Land Use</b>		<b>55/70/70 CNEL, dBA</b>

The predicted sound levels of the Scenario 1 activities range between 35.2 CNEL, dBA and 58.9 CNEL, dBA at the properties adjacent to the project site. The predicted noise levels are below the “normally acceptable” community noise exposure sound level of 55 CNEL and 70 CNEL for their corresponding land use categories at all receptors except at Receptor 5 and Receptor 6.

The predicted noise levels at Receptor 5 and Receptor 6 are above the “normally acceptable” community noise exposure level of 55 CNEL for the single-family land use category. However, the measured ambient sound level obtained at the single-family zoning area already exceeds the “normally acceptable” community noise exposure sound level of 55 CNEL. The results of the noise modeling are shown visually in Figure 5-3 as a noise contour map.



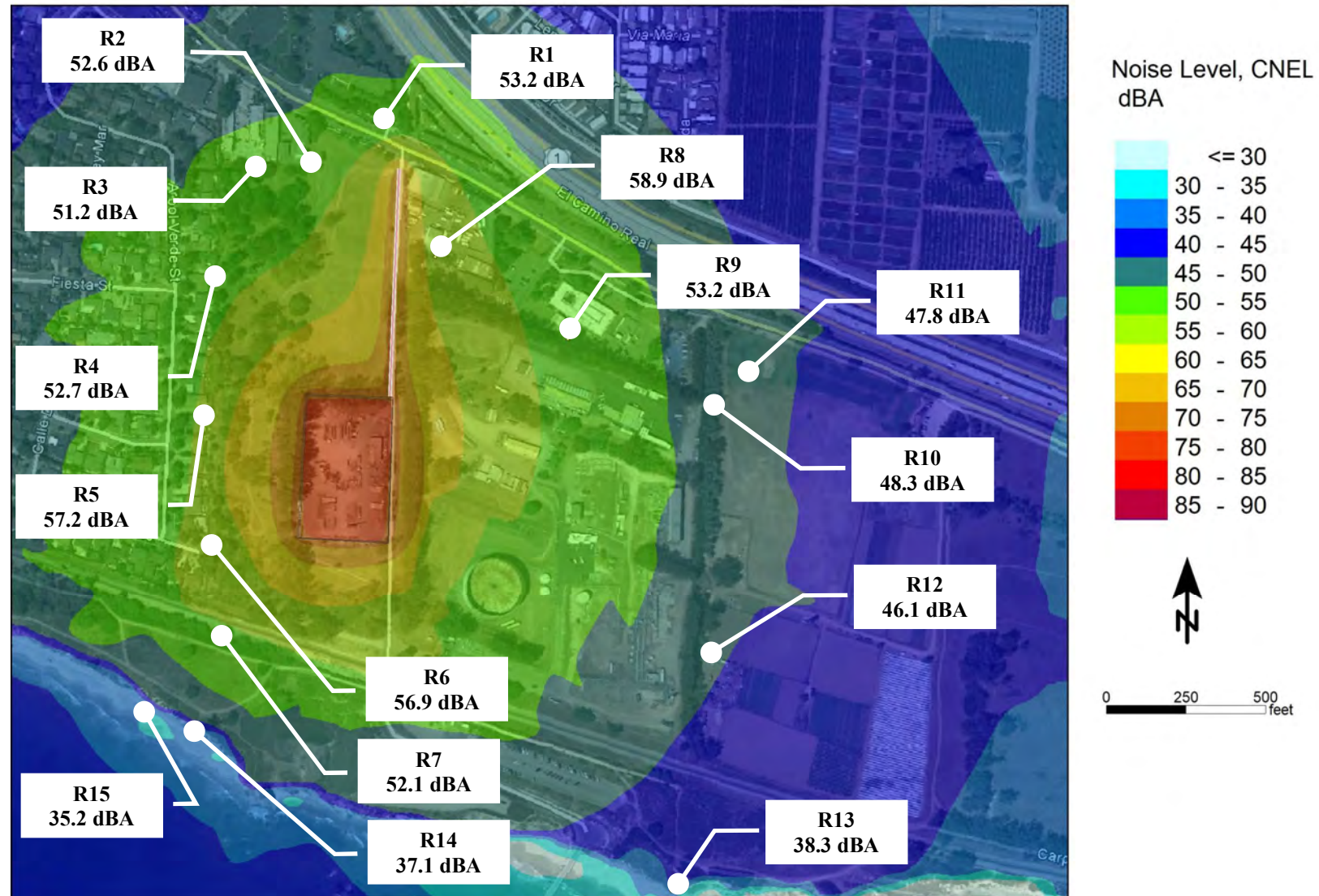
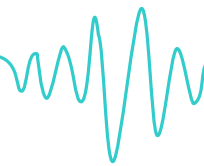


Figure 5-3 Scenario 1 Demolition Activities Noise Contour Map (CNEL, dBA)





## 5.3 Scenario 2 Activities Noise Modeling Results

A noise model was generated for the Scenario 2 pipeline removal, tanks and vessels removal, remediation excavations and tree removal activities at the Southeast corner of the Main Plant Area. The noise modeling predicts the community noise equivalent levels (CNEL) at the site and adjacent surroundings.

The results of the noise modeling are presented in Table 5-6. The calculated noise levels represent only the contribution of the Scenario 2 activities and do not include ambient noise. Actual field sound level measurements may vary from the modeled noise levels due to other noise sources such as traffic, other human activity, or environmental factors.

**Table 5-6 Scenario 2 Activities Noise Modeling Results**

Receptor	Receptor Land Use Category	Predicted Activities Noise Levels CNEL, dBA
R1	Commercial	52.5
R2	Commercial	51.9
R3	Commercial	49.5
R4	Single-Family Residential	48.8
R5	Single-Family Residential	50.2
R6	Single-Family Residential	50.8
R7	Open Space/Walking Trail (Recreational)	49.4
R8	Commercial	58.2
R9	Office Buildings, Business Commercial & Professional	54.4
R10	Commercial	53.5
R11	Commercial	52.3
R12	Commercial	66.2
R13	Open Space/Walking Trail (Recreational)	42.1
R14	Open Space/Walking Trail (Recreational)	40.2
R15	Open Space/Walking Trail (Recreational)	37.3
<b>“Normally Acceptable” CNEL for Single Family Residential/Commercial/ Recreational Land Use</b>		<b>55/70/70 CNEL, dBA</b>

The predicted sound levels of Scenario 2 activities that include pipeline removal, tank and vessel removals, remediation excavations and tree removal range between 37.3 CNEL, dBA and 66.2 CNEL, dBA at the properties adjacent to the project site. The predicted noise levels are below the “normally acceptable” community noise exposure sound level for their corresponding land use category. The results of the noise modeling are shown visually in Figure 5-4 as a noise contour map.

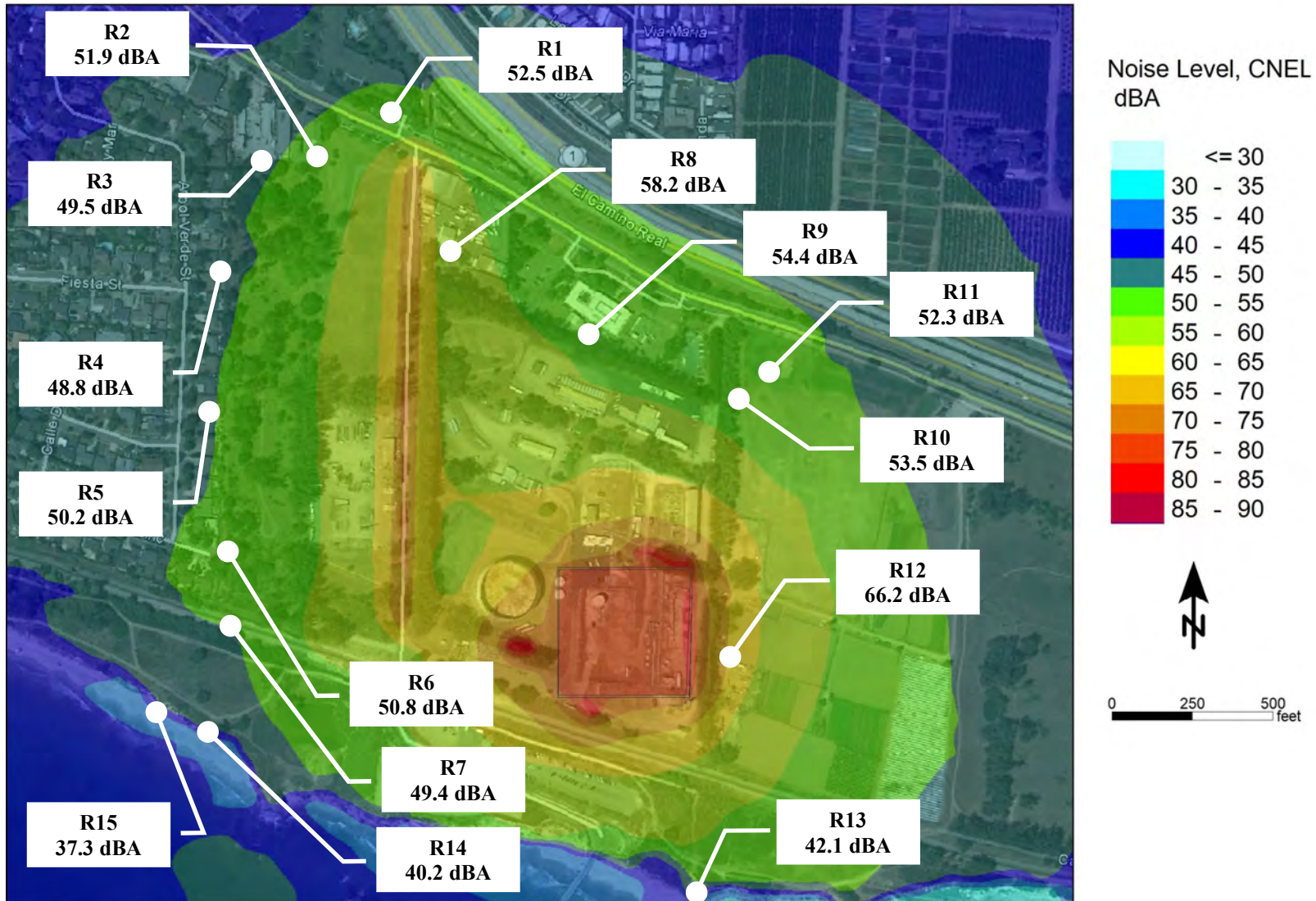
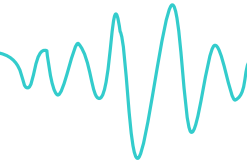
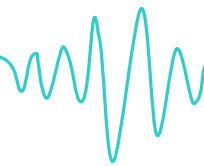


Figure 5-4 Scenario 2 Piping Removal Activities Noise Contour Map (CNEL, dBA)



## 5.4 Scenario 3 Activities Noise Modeling Results

A noise model was generated for the Scenario 3 soil remediation, backfill and compaction activities at the MSRC Lease Area. The noise modeling predicts the community noise equivalent levels (CNEL) at the site and adjacent surroundings.

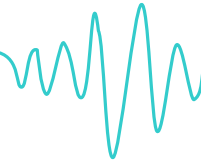
The results of the noise modeling are presented in Table 5-7. The calculated noise levels represent only the contribution of the Scenario 3 activities and do not include ambient noise. Actual field sound level measurements may vary from the modeled noise levels due to other noise sources such as traffic, other human activity, or environmental factors.

**Table 5-7 Scenario 3 Activities Noise Modeling Results**

Receptor	Receptor Land Use Category	Predicted Activities Noise Levels CNEL, dBA
R1	Commercial	54.4
R2	Commercial	53.3
R3	Commercial	51.5
R4	Single-Family Residential	49.6
R5	Single-Family Residential	50.1
R6	Single-Family Residential	47.8
R7	Open Space/Walking Trail (Recreational)	46.3
R8	Commercial	60.6
R9	Office Buildings, Business Commercial & Professional	71.1
R10	Commercial	66.2
R11	Commercial	61.1
R12	Commercial	51.1
R13	Open Space/Walking Trail (Recreational)	33.9
R14	Open Space/Walking Trail (Recreational)	35.3
R15	Open Space/Walking Trail (Recreational)	32.2
<b>“Normally Acceptable” CNEL for Single Family Residential/Commercial/ Recreational Land Use</b>		<b>55/70/70 CNEL, dBA</b>

The predicted sound levels of the Scenario 3 activities range between 32.2 CNEL, dBA and 71.1 CNEL, dBA at the properties adjacent to the project site. The predicted noise levels are below the “normally acceptable” community noise exposure sound level of 55 CNEL and 70 CNEL at all receptors except at Receptor 9.

The predicted noise level at Receptor 9 is above the “normally acceptable” community noise exposure level of 70 CNEL for the Office Buildings, Business Commercial & Professional land use category. However, the sound levels generated by the Scenario 3 construction activities are temporary and the City of Carpinteria Code of Ordinances five



decibels above ambient noise level limit was utilized to assess the impact. The results of the noise modeling are shown visually in Figure 5-5 as a noise contour map.



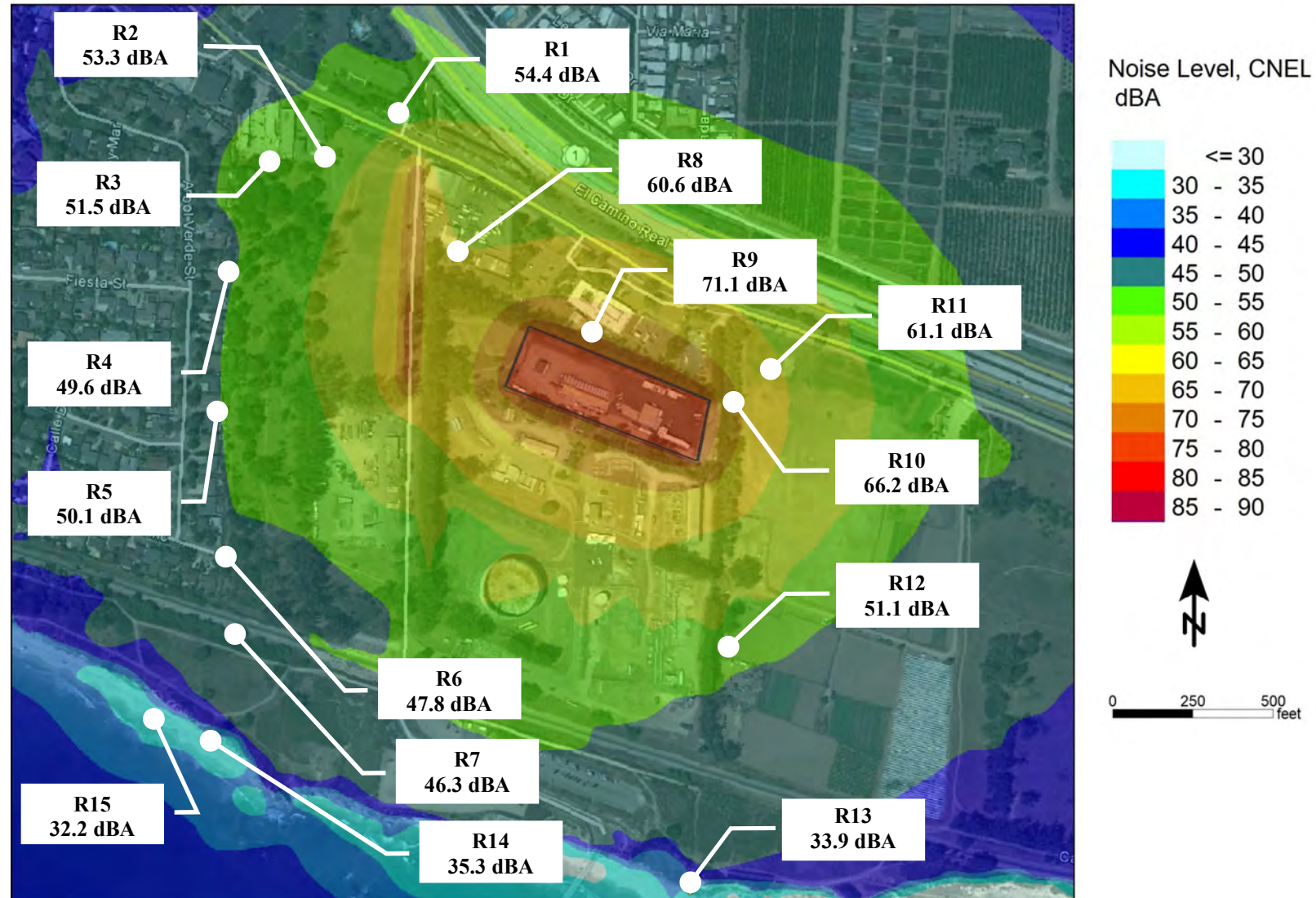
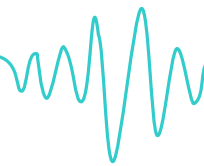


Figure 5-5 Scenario 3 Soil Remediation Activities Noise Contour Map (CNEL, dBA)





## 5.5 Noise Impact at Adjacent Properties Utilizing the City of Carpinteria Code of Ordinances

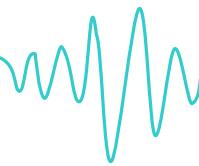
To determine if there is a noise impact at the adjacent properties during the Scenario 1, 2 and 3 activities, the City of Carpinteria Code of Ordinances limit of five decibels above ambient was utilized for the assessment at the modeled receptors. The results of the assessment are shown in Table 5-8 through Table 5-10.

**Table 5-8 Noise Levels of Predicted Scenario 1 Activities vs. Ambient Level Contributions Noise Levels**

Receptor	Corresponding Ambient Measurement Location	Predicted Activities CNEL Sound Level	Measured Ambient CNEL Sound Level	Measured Ambient CNEL plus Predicted Activities Sound Level	Increase in Ambient Noise
R1	Location 1	53.2	68.5	68.6	0.1
R2	Location 1	52.6	68.5	68.6	0.1
R3	Location 2	51.2	60.4	60.9	0.5
R4	Location 2	52.7	60.4	61.1	0.7
R5	Location 2	57.2	60.4	62.1	1.7
R6	Location 2	56.9	60.4	62.0	1.6
R7	Location 3	52.1	67.7	67.8	0.1
R8	Location 1	58.9	68.5	69.0	0.5
R9	Location 1	53.2	68.5	68.6	0.1
R10	Location 1	48.3	68.5	68.5	0
R11	Location 1	47.8	68.5	68.5	0
R12	Location 3	46.1	67.7	67.7	0
R13	Location 3	38.3	67.7	67.7	0
R14	Location 3	37.1	67.7	67.7	0
R15	Location 3	35.2	67.7	67.7	0

**Table 5-9 Noise Levels of Predicted Scenario 2 Activities vs. Ambient Level Contributions Noise Levels**

Receptor	Corresponding Ambient Measurement Location	Predicted Activities CNEL Sound Level	Measured Ambient CNEL Sound Level	Measured Ambient CNEL plus Predicted Activities Sound Level	Increase in Ambient Noise
R1	Location 1	52.5	68.5	68.6	0.1
R2	Location 1	51.9	68.5	68.6	0.1
R3	Location 2	49.5	60.4	60.7	0.3
R4	Location 2	48.8	60.4	60.7	0.3
R5	Location 2	50.2	60.4	60.8	0.4
R6	Location 2	50.8	60.4	60.9	0.5
R7	Location 3	49.4	67.7	67.8	0.1
R8	Location 1	58.2	68.5	68.9	0.4
R9	Location 1	54.4	68.5	68.7	0.2

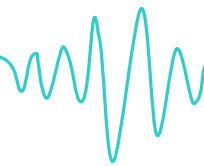


R10	Location 1	53.5	68.5	68.6	0.1
R11	Location 1	52.3	68.5	68.6	0.1
R12	Location 3	66.2	67.7	70.0	2.3
R13	Location 3	42.1	67.7	67.7	0
R14	Location 3	40.2	67.7	67.7	0
R15	Location 3	37.3	67.7	67.7	0

**Table 5-10 Noise Levels of Predicted Scenario 3 Activities vs. Ambient Level Contributions Noise Levels**

Receptor	Corresponding Ambient Measurement Location	Predicted Activities CNEL Sound Level	Measured Ambient CNEL Sound Level	Measured Ambient CNEL plus Predicted Activities Sound Level	Increase in Ambient Noise
R1	Location 1	54.4	68.5	68.7	0.2
R2	Location 1	53.3	68.5	68.6	0.1
R3	Location 2	51.5	60.4	60.9	0.5
R4	Location 2	49.6	60.4	60.7	0.3
R5	Location 2	50.1	60.4	60.8	0.4
R6	Location 2	47.8	60.4	60.6	0.2
R7	Location 3	46.3	67.7	67.7	0
R8	Location 1	60.6	68.5	69.2	0.7
R9	Location 1	71.1	68.5	73.0	4.5
R10	Location 1	66.2	68.5	70.5	2.0
R11	Location 1	61.1	68.5	69.2	0.7
R12	Location 3	51.1	67.7	67.8	0.1
R13	Location 3	33.9	67.7	67.7	0
R14	Location 3	35.3	67.7	67.7	0
R15	Location 3	32.2	67.7	67.7	0

The results shown in the Table 5-8 through Table 5-10 indicate the noise level contribution of the Scenario 1, 2 and 3 activities for the decommissioning of the Carpinteria Plant will not exceed the City of Carpinteria Code of Ordinances and the “Environmental Review Guidelines” for “Temporary Construction Noise” limit of five decibels above ambient at the adjacent properties. Therefore, noise mitigation is not recommended during the Scenario 1 through Scenario 3 activities at the plant.



## 6. Conclusion

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A 24-hour ambient sound level survey was conducted on April 8, 2021 at three locations to document the ambient CNEL sound levels of areas near the Carpinteria Plant. Using the ambient noise levels obtained during the survey, a noise impact analysis of the demolition activities for the decommissioning of the Carpinteria Plant was developed and assessed at the adjacent properties.

The measured ambient sound level obtained at the land use area described as single-family residential exceeds the City of Carpinteria General Plan “normally acceptable” community noise exposure sound level of 55 CNEL. The measured ambient sound levels obtained at the locations where land use is described as commercial and open space/walking trail were below the 70 CNEL allowable noise exposure sound level. The measured ambient sound levels obtained at the locations where land use is described as coastal industrial were below the 75 CNEL allowable noise exposure sound level.

The predicted sound levels of the Scenario 1 activities range between 35.2 CNEL, dBA and 58.9 CNEL, dBA at the properties adjacent to the project site. The predicted noise levels are below the “normally acceptable” community noise exposure sound level of 55 CNEL and 70 CNEL for their corresponding land use categories at all receptors except at Receptor 5 and Receptor 6.

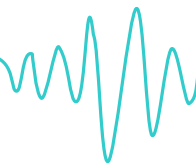
The predicted noise levels at Receptor 5 and Receptor 6 are above the “normally acceptable” community noise exposure level of 55 CNEL for the single-family land use category. However, the measured ambient sound level obtained at the single-family zoning area already exceeds the “normally acceptable” community noise exposure sound level of 55 CNEL.

The predicted sound levels of Scenario 2 activities that include pipeline removal, tank and vessel removals, remediation excavations and tree removal range between 37.3 CNEL, dBA and 66.2 CNEL, dBA at the properties adjacent to the project site. The predicted noise levels are below the “normally acceptable” community noise exposure sound level for their corresponding land use category.

The predicted sound levels of the Scenario 3 activities range between 32.2 CNEL, dBA and 71.1 CNEL, dBA at the properties adjacent to the project site. The predicted noise levels are below the “normally acceptable” community noise exposure sound level of 55 CNEL and 70 CNEL at all receptors except at Receptor 9.

The predicted noise level at Receptor 9 is above the “normally acceptable” community noise exposure level of 70 CNEL for the Office Buildings, Business Commercial & Professional land use category. However, the sound levels generated by the Scenario 3 construction activities are temporary and the City of Carpinteria Code of Ordinances five decibels above ambient noise level limit was utilized to assess the impact.

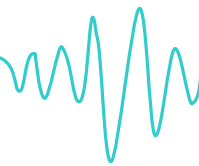
Scenario 1 through Scenario 3 predicted sound levels and the measured ambient sound levels were compared with the City of Carpinteria Code of Ordinances and “Environmental Review Guidelines” for “Temporary Construction Noise” limit of five decibels above the ambient level of the area. The calculated noise level increase ranged from 0 decibels to 4.5 decibels at the adjacent properties. These increases are below the allowable noise level increase of five decibels. Therefore, noise mitigation is not recommended during the demolition activities for the decommissioning of the Carpinteria Plant.



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**Appendix A      Glossary of Acoustical Terms**

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## **Ambient Noise**

The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources both near and far.

## **Average Sound Level**

See Equivalent-Continuous Sound Level

## **A-Weighted Sound Level, dB(A)**

The sound level obtained by use of A-weighting. Weighting systems were developed to measure sound in a way that more closely mimics the ear's natural sensitivity relative to frequency so that the instrument is less sensitive to noise at frequencies where the human ear is less sensitive and more sensitive at frequencies where the human ear is more sensitive.

## **C-Weighted Sound Level, dBC**

The sound level obtained by use of C-weighting. Follows the frequency sensitivity of the human ear at very high noise levels. The C-weighting scale is quite flat and therefore includes much more of the low-frequency range of sounds than the A and B scales. In some jurisdictions, C-weighted sound limits are used to limit the low-frequency content of noise sources.

## **Community Noise Equivalent Level (CNEL)**

A 24-hour A-weighted average sound level which takes into account the fact that a given level of noise may be more or less tolerable depending on when it occurs. The CNEL measure of noise exposure weights average hourly noise levels by 5 dB for the evening hours (between 7:00 pm and 10:00 pm), and 10 dB between 10:00 pm and 7:00 am, then combines the results with the daytime levels to produce the final CNEL value. It is measured in decibels, dB.

## **Day-Night Average Sound Level (Ldn)**

A measure of noise exposure level that is similar to CNEL except that there is no weighting applied to the evening hours of 7:00 pm to 10:00 pm. It is measured in decibels, dB.

## **Daytime Average Sound Level**

The time-averaged A-weighted sound level measured between the hours of 7:00 am to 7:00 pm. It is measured in decibels, dB.

## **Decay Rate**

The time taken for the sound pressure level at a given frequency to decrease in a room. It is measured in decibels per second, dB/s.

## **Decibel (dB)**

The basic unit of measurement for sound level.

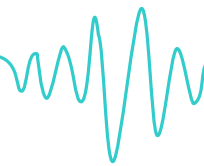
## **Direct Sound**

Sound that reaches a given location in a direct line from the source without any reflections.

## **Divergence**

The spreading of sound waves from a source in a free field, resulting in a reduction in sound pressure level with increasing distance from the source.





## **Energy Basis**

This refers to the procedure of summing or averaging sound pressure levels on the basis of their squared pressures. This method involves the conversion of decibels to pressures, then performing the necessary arithmetic calculations, and finally changing the pressure back to decibels.

## **Equivalent-Continuous Sound Level (Leq)**

The average sound level measured over a specified time period. It is a single-number measure of time-varying noise over a specified time period. It is the level of a steady sound that, in a stated time period and at a stated location, has the same A-Weighted sound energy as the time-varying sound. For example, a person who experiences an Leq of 60 dB(A) for a period of 10 minutes standing next to a busy street is exposed to the same amount of sound energy as if he had experienced a constant noise level of 60 dB(A) for 10 minutes rather than the time-varying traffic noise level. It is measured in decibels, dB.

## **Fast Response**

A setting on the sound level meter that determines how sound levels are averaged over time. A fast sound level is always more strongly influenced by recent sounds, and less influenced by sounds occurring in the distant past, than the corresponding slow sound level. For the same non-steady sound, the maximum fast sound level is generally greater than the corresponding maximum slow sound level. Fast response is typically used to measure impact sound levels.

## **Field Impact Insulation Class (FIIC)**

A single number rating similar to the impact insulation class except that the impact sound pressure levels are measured in the field.

## **Field Sound Transmission Class (FSTC)**

A single number rating similar to sound transmission class except that the transmission loss values used to derive this class are measured in the field.

## **Flanking Sound Transmission**

The transmission of sound from a room in which a source is located to an adjacent receiving room by paths other than through the common partition. Also, the diffraction of noise around the ends of a barrier.

## **Frequency**

The number of oscillations per second of a sound wave

## **Hourly Average Sound Level (HNL)**

The equivalent-continuous sound level, Leq, over a 1-hour time period.

## **Impact Insulation Class (IIC)**

A single number rating used to compare the effectiveness of floor/ceiling assemblies in providing reduction of impact-generated sound such as the sound of a person's walking across the upstairs floor.

## **Impact Noise**

The noise that results when two objects collide.

## **Impulse Noise**

Noise of a transient nature due to the sudden impulse of pressure like that created by a gunshot or balloon bursting.



## **Insertion Loss**

The decrease in sound power level measured at the location of the receiver when an element (e.g., a noise barrier) is inserted in the transmission path between the sound source and the receiver.

## **Inverse Square Law**

A rule by which the sound intensity varies inversely with the square of the distance from the source. This results in a 6dB decrease in sound pressure level for each doubling of distance from the source.

## **$L_n$ Sound Level**

Time-varying noise environments may be expressed in terms of the noise level that is exceeded for a certain percentage of the total measurement time. These statistical noise levels are denoted  $L_n$ , where  $n$  is the percent of time. For example, the  $L_{50}$  is the noise level exceeded for 50% of the time. For a 1-hour measurement period, the  $L_{50}$  would be the noise level exceeded for a cumulative period of 30 minutes in that hour.

## **Masking**

The process by which the threshold of hearing for one sound is raised by the presence of another sound.

## **Maximum Sound Level ( $L_{max}$ )**

The greatest sound level measured on a sound level meter during a designated time interval or event.

## **NC Curves (Noise Criterion Curves)**

A system for rating the noisiness of an occupied indoor space. An actual octave-band spectrum is compared with a set of standard NC curves to determine the NC level of the space.

## **Noise Isolation Class (NIC)**

A single number rating derived from the measured values of noise reduction between two enclosed spaces that are connected by one or more partitions. Unlike STC or NNNIC, this rating is not adjusted or normalized to a measured or standard reverberation time.

## **Noise Reduction**

The difference in sound pressure level between any two points.

## **Noise Reduction Coefficient (NRC)**

A single number rating of the sound absorption properties of a material. It is the average of the sound absorption coefficients at 250, 500, 1000, and 2000 Hz, rounded to the nearest multiple of 0.05.

## **Normalized Noise Isolation Class (NNIC)**

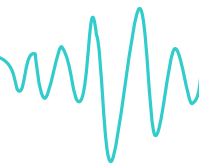
A single number rating similar to the noise isolation class except that the measured noise reduction values are normalized to a reverberation time of 0.5 seconds.

## **Octave**

The frequency interval between two sounds whose frequency ratio is 2. For example, the frequency interval between 500 Hz and 1,000 Hz is one octave.

## **Octave-Band Sound Level**

For an octave frequency band, the sound pressure level of the sound contained within that band.

**One-Third Octave**

The frequency interval between two sounds whose frequency ratio is  $2^{1/3}$ . For example, the frequency interval between 200 Hz and 250 Hz is one-third octave.

**One-Third-Octave-Band Sound Level**

For a one-third-octave frequency band, the sound pressure level of the sound contained within that band.

**Outdoor-Indoor Transmission Class (OITC)**

A single number rating used to compare the sound insulation properties of building façade elements. This rating is designed to correlate with subjective impressions of the ability of façade elements to reduce the overall loudness of ground and air transportation noise.

**Peak Sound Level (Lpk)**

The maximum instantaneous sound level during a stated time period or event.

**Pink Noise**

Noise that has approximately equal intensities at each octave or one-third-octave band.

**Point Source**

A source that radiates sound as if from a single point.

**RC Curves (Room Criterion Curves)**

A system for rating the noisiness of an occupied indoor space. An actual octave-band spectrum is compared with a set of standard RC curves to determine the RC level of the space.

**Real-Time Analyzer (RTA)**

An instrument for the determination of a sound spectrum.

**Receiver**

A person (or persons) or equipment which is affected by noise.

**Reflected Sound**

Sound that persists in an enclosed space as a result of repeated reflections or scattering. It does not include sound that travels directly from the source without reflections.

**Reverberation**

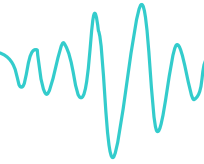
The persistence of a sound in an enclosed or partially enclosed space after the source of the sound has stopped, due to the repeated reflection of the sound waves.

**Room Absorption**

The total absorption within a room due to all objects, surfaces and air absorption within the room. It is measured in Sabins or metric Sabins.

**Slow Response**

A setting on the sound level meter that determines how measured sound levels are averaged over time. A slow sound level is more influenced by sounds occurring in the distant past than the corresponding fast sound level.

**Sound**

A physical disturbance in a medium (e.g., air) that is capable of being detected by the human ear.

**Sound Absorption Coefficient**

A measure of the sound-absorptive property of a material.

**Sound Insulation**

The capacity of a structure or element to prevent sound from reaching a receiver room either by absorption or reflection.

**Sound Level Meter (SLM)**

An instrument used for the measurement of sound level, with a standard frequency-weighting and standard exponentially weighted time averaging.

**Sound Power Level**

A physical measure of the amount of power a sound source radiates into the surrounding air. It is measured in decibels.

**Sound Pressure Level**

A physical measure of the magnitude of a sound. It is related to the sound's energy. The terms sound pressure level and sound level are often used interchangeably.

**Sound Transmission Class (STC)**

A single number rating used to compare the sound insulation properties of walls, floors, ceilings, windows, or doors. This rating is designed to correlate with subjective impressions of the ability of building elements to reduce the overall loudness of speech, radio, television, and similar noise sources in offices and buildings.

**Spectrum**

The spectrum of a sound wave is a description of its resolution into components, each of different frequency and usually different amplitude.

**Tone**

A sound with a distinct pitch

**Transmission Loss (TL)**

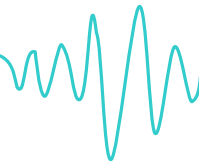
A property of a material or structure describing its ability to reduce the transmission of sound at a particular frequency from one space to another. The higher the TL value the more effective the material or structure is in reducing sound between two spaces. It is measured in decibels.

**White Noise**

Noise that has approximately equal intensities at all frequencies.

**Windscreen**

A porous covering for a microphone, designed to reduce the noise generated by the passage of wind over the microphone.



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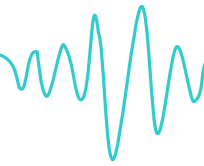
## **Appendix B      Weather Data**

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# Behrens and Associates, Inc.

Environmental Noise Control



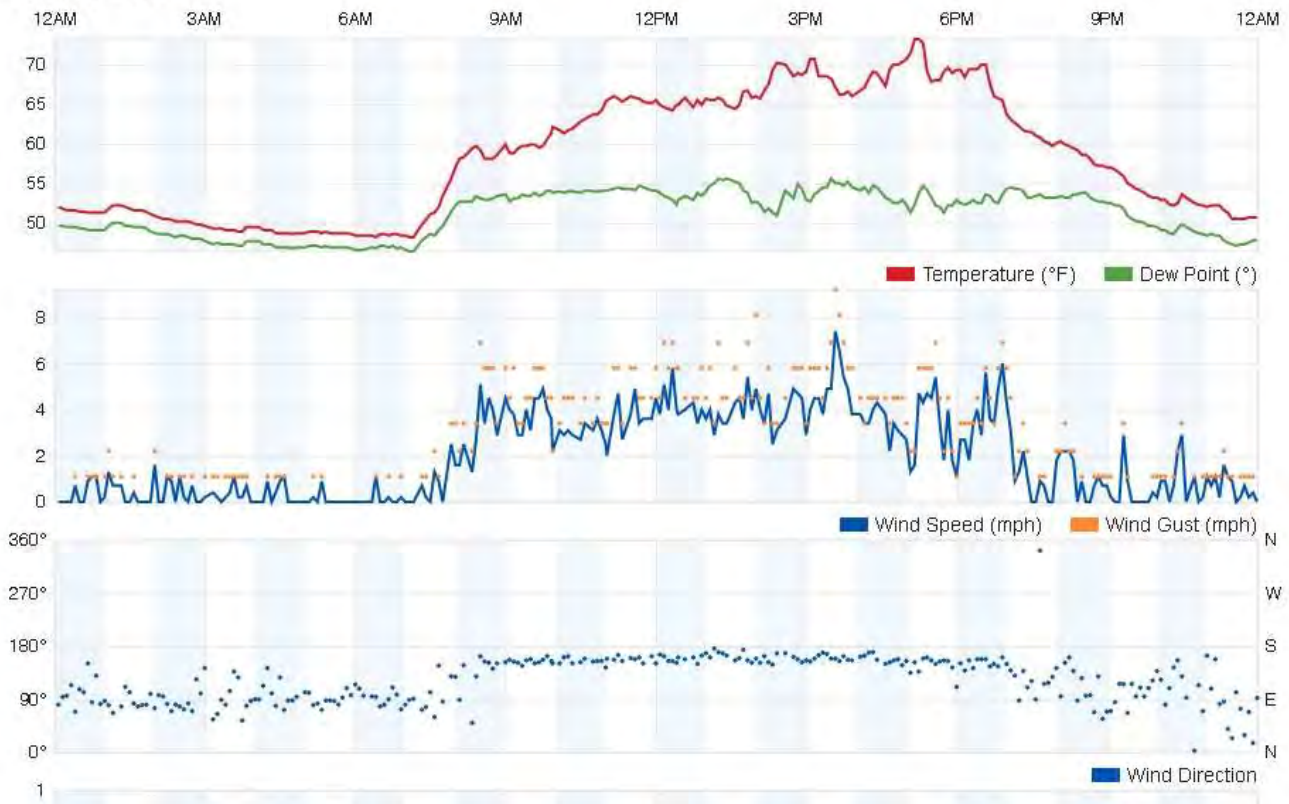
## Summary April 8, 2021

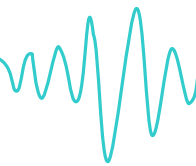
	High	Low	Average
Temperature	73.2 °F	48.0 °F	58.1 °F
Dew Point	55.8 °F	46.4 °F	50.8 °F
Humidity	95 %	47 %	79 %
Precipitation	0.00 in	--	--

	High	Low	Average
Wind Speed	7.4 mph	0.0 mph	1.0 mph
Wind Gust	9.2 mph	--	1.4 mph
Wind Direction	--	--	SSE
Pressure	30.02 in	29.85 in	--

Graph Table

## April 8, 2021

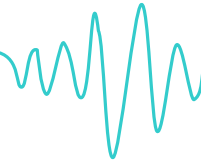




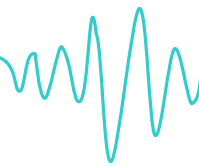
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**Appendix C      Ambient Survey Sound Level Data**

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**Table C-1 Recorded Hourly Average Ambient Sound Levels April 8, 2021 (dBA, L<sub>eq</sub>)**

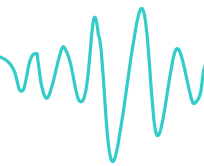
<b>Date/Time</b>	<b>Location 1</b>	<b>Location 2</b>	<b>Location 3</b>
	<b>Sound Level (dBA)</b>	<b>Sound Level (dBA)</b>	<b>Sound Level (dBA)</b>
12:00:00 AM	55.7	51.0	53.0
1:00:00 AM	54.4	49.3	52.3
2:00:00 AM	55.9	50.8	52.0
3:00:00 AM	58.0	50.7	56.3
4:00:00 AM	61.9	52.7	56.1
5:00:00 AM	65.0	55.3	56.6
6:00:00 AM	65.7	57.5	56.7
7:00:00 AM	66.4	57.3	62.6
8:00:00 AM	65.4	55.9	54.5
9:00:00 AM	64.9	57.1	56.5
10:00:00 AM	65.7	51.9	65.3
11:00:00 AM	65.3	54.1	67.2
12:00:00 PM	65.6	49.5	58.4
1:00:00 PM	64.3	48.7	52.9
2:00:00 PM	66.9	50.6	53.6
3:00:00 PM	65.6	54.4	74.2
4:00:00 PM	64.7	50.8	49.5
5:00:00 PM	64.3	52.6	62.7
6:00:00 PM	63.9	59.4	68.0
7:00:00 PM	62.2	57.1	61.3
8:00:00 PM	61.2	54.6	52.9
9:00:00 PM	60.2	55.5	73.0
10:00:00 PM	59.7	53.6	52.3
11:00:00 PM	57.4	51.6	51.4



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## **Appendix D      Noise Source and Noise Contribution Sound Level Data**

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**Table D-1 Scenario 1 Noise Modeling Equipment Noise Source Input**

		Sum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Excavator	dB	126.7	123.0	121.0	117.0	117.0	114.0	110.0	104.0	102.0
	dB(A)	118.9	96.8	104.9	108.4	113.8	114.0	111.2	105.0	100.9
Loader	dB	102.6	98.0	97.0	93.0	92.0	92.0	91.0	84.0	77.0
	dB(A)	96.8	71.8	80.9	84.4	88.8	92.0	92.2	85.0	75.9

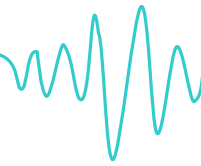
**Table D-2 Scenario 2 Noise Modeling Equipment Noise Source Input**

		Sum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Excavator	dB	126.7	123.0	121.0	117.0	117.0	114.0	110.0	104.0	102.0
	dB(A)	118.9	96.8	104.9	108.4	113.8	114.0	111.2	105.0	100.9
Loader	dB	102.6	98.0	97.0	93.0	92.0	92.0	91.0	84.0	77.0
	dB(A)	96.8	71.8	80.9	84.4	88.8	92.0	92.2	85.0	75.9
Boom Lift	dB	124.6	120.6	115.6	116.6	115.6	111.6	112.6	110.6	103.6
	dB(A)	119.0	94.4	99.5	108.0	112.4	111.6	113.8	111.5	102.5
Dozer	dB	126.8	125.0	117.0	115.0	115.0	114.0	111.0	110.0	101.0
	dB(A)	118.9	98.8	100.9	106.4	111.8	114.0	112.2	111.0	99.9
Backhoe	dB	122.3	120.5	112.5	110.5	110.5	109.5	106.5	105.5	96.5
	dB(A)	114.4	94.3	96.4	101.9	107.3	109.5	107.7	106.5	95.4
Chainsaw	dB	121.2	112.2	112.1	111.7	112.3	112.0	111.8	112.1	112.2
	dB(A)	119.0	86.0	96.0	103.0	109.0	112.0	113.0	113.0	111.0

**Table D-3 Scenario 3 Noise Modeling Equipment Noise Source Input**

		Sum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Excavator	dB	126.7	123.0	121.0	117.0	117.0	114.0	110.0	104.0	102.0
	dB(A)	118.9	96.8	104.9	108.4	113.8	114.0	111.2	105.0	100.9
Loader	dB	102.6	98.0	97.0	93.0	92.0	92.0	91.0	84.0	77.0
	dB(A)	96.8	71.8	80.9	84.4	88.8	92.0	92.2	85.0	75.9
Dozer	dB	126.8	125.0	117.0	115.0	115.0	114.0	111.0	110.0	101.0
	dB(A)	118.9	98.8	100.9	106.4	111.8	114.0	112.2	111.0	99.9
Grader	dB	124.2	121.0	115.0	115.0	114.0	114.0	113.0	106.0	94.0
	dB(A)	118.7	94.8	98.9	106.4	110.8	114.0	114.2	107.0	92.9
Backhoe	dB	122.3	120.5	112.5	110.5	110.5	109.5	106.5	105.5	96.5
	dB(A)	114.4	94.3	96.4	101.9	107.3	109.5	107.7	106.5	95.4
Soil Compactor	dB	116.7	93.8	98.9	102.4	108.8	111.0	112.2	108.0	100.9
	dB(A)	116.7	67.6	82.8	93.8	105.6	111.0	113.4	109.0	99.8





**Table D-4 Noise Modeling Truck Haul Data Input**

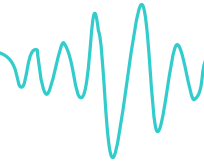
	Levels	Daytime (7-22h)	Nighttime (22-7h)
Hauling Truck Road	dBA	65.9	—

**Table D-5 Noise Modeling Truck Haul Data Input**

Veh/h(d)	p(d)(%)	Veh/h(n)	p(n)%
	100	0	100

**Table D-6 Noise Modeling Truck Haul Data Input**

	Veh/h(d)	p(d)(%)	Veh/h(n)	p(n)%
Automobiles	0	0	0	100
Medium Trucks	0	0	0	0
Heavy Trucks	36	100	0	0
Buses	0	0	0	0
Motorcycles	0	0	0	0
Auxiliary Vehicle	0	0	0	0

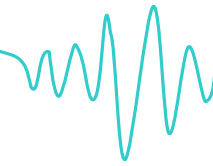


**Table D-7 Scenario 1 Noise Source Contribution at Receptors**

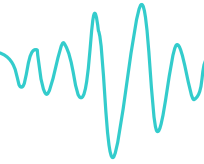
Receiver	CNEL/dB (A)	Ld/dB(A)	Le/dB(A)	Ln/dB(A)	Equipment Source Contribution in Descending Order	Source type	CNEL dB(A)	Ld dB(A)	Le dB(A)	Ln dB(A)
1	53.2	54.9	51.4	–	Road	Road	50.9	51.4	51.4	–
					Excavator1	Area	46.3	49.4	–	–
					Excavator2	Area	46.3	49.4	–	–
					Loader	Area	24.7	27.7	–	–
2	52.6	54.4	50.3	–	Road	Road	49.9	50.3	50.3	–
					Excavator1	Area	46.2	49.3	–	–
					Excavator2	Area	46.2	49.3	–	–
					Loader	Area	24.5	27.5	–	–
3	51.2	53.5	46.6	–	Excavator1	Area	46.5	49.5	–	–
					Excavator2	Area	46.5	49.5	–	–
					Road	Road	46.1	46.6	46.6	–
					Loader	Area	24.9	27.9	–	–
4	52.7	55.4	45.6	–	Excavator1	Area	48.8	51.8	–	–
					Excavator2	Area	48.8	51.8	–	–
					Road	Road	45.1	45.6	45.6	–
					Loader	Area	27.1	30.2	–	–
5	57.2	60.1	44.0	–	Excavator1	Area	54.0	57.0	–	–
					Excavator2	Area	54.0	57.0	–	–
					Road	Road	43.5	44.0	44.0	–
					Loader	Area	32.7	35.7	–	–
6	56.9	59.9	40.0	–	Excavator1	Area	53.8	56.8	–	–
					Excavator2	Area	53.8	56.8	–	–
					Road	Road	39.5	40.0	40.0	–
					Loader	Area	32.4	35.4	–	–
7	52.1	55.1	36.4	–	Excavator1	Area	49.0	52.0	–	–
					Excavator2	Area	49.0	52.0	–	–
					Road	Road	35.9	36.4	36.4	–
					Loader	Area	26.9	29.9	–	–
8	58.9	60.4	57.6	–	Road	Road	57.1	57.6	57.6	–
					Excavator1	Area	51.0	54.1	–	–
					Excavator2	Area	51.0	54.1	–	–
					Loader	Area	29.6	32.6	–	–
9	53.2	55.9	45.8	–	Excavator1	Area	49.4	52.4	–	–
					Excavator2	Area	49.4	52.4	–	–
					Road	Road	45.4	45.8	45.8	–
					Loader	Area	27.9	30.3	–	–
10	48.3	51.1	39.2	–	Excavator1	Area	44.8	47.8	–	–

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					Excavator2	Area	44.8	47.8	—	—
					Road	Road	38.7	39.2	39.2	—
					Loader	Area	23	26	—	—
					Excavator1	Area	44.3	47.3	—	—
<b>11</b>	47.8	50.6	38.5	—	Excavator2	Area	44.3	47.3	—	—
					Road	Road	38	38.5	38.5	—
					Loader	Area	22.5	25.5	—	—
					Excavator1	Area	42.7	45.7	—	—
<b>12</b>	46.1	48.9	35.5	—	Excavator2	Area	42.7	45.7	—	—
					Road	Road	35	35.5	35.5	—
					Loader	Area	20.5	23.5	—	—
					Excavator1	Area	35	38	—	—
<b>13</b>	38.3	41.2	27.4	—	Excavator2	Area	35	38	—	—
					Road	Road	26.9	27.4	27.4	—
					Loader	Area	11.5	14.5	—	—
					Excavator1	Area	32.6	35.6	—	—
<b>14</b>	37.1	39.5	32.1	—	Excavator2	Area	32.6	35.6	—	—
					Road	Road	31.6	32.1	32.1	—
					Loader	Area	9	12	—	—
					Excavator1	Area	31.8	34.8	—	—
<b>15</b>	35.2	38.0	24.2	—	Excavator2	Area	31.8	34.8	—	—
					Road	Road	23.8	24.2	24.2	—
					Loader	Area	8.2	11.2	—	—
					Excavator1	Area	31.8	34.8	—	—

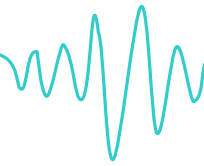


**Table D-8 Scenario 2 Noise Source Contribution at Receptors**

Receiver	CNEL/dB (A)	Ld/dB(A)	Le/dB(A)	Ln/dB(A)	Equipment Source Contribution Descending Order	Source type	CNEL dB(A)	Ld dB(A)	Le dB(A)	Ln dB(A)
1	52.5	53.9	51.6	—	Backhoe 1	Area	34.9	37.9	—	—
					Backhoe 2	Area	34.9	37.9	—	—
					Boom Lift	Area	38.7	41.7	—	—
					Chainsaw 1	Area	34.8	37.8	—	—
					Chainsaw 2	Area	33.2	36.2	—	—
					Chainsaw 2	Area	34.6	37.6	—	—
					Chainsaw 2	Area	31.5	34.5	—	—
					Dozer	Area	39.4	42.4	—	—
					Excavator 1	Area	39.4	42.4	—	—
					Excavator2	Area	39.4	42.4	—	—
					Loader 2	Area	17.7	20.7	—	—
					Loader 1	Area	17.7	20.7	—	—
					Road	Road	51.1	51.6	51.6	—
2	51.9	53.3	50.7	—	Backhoe 1	Area	35.1	38.1	—	—
					Backhoe 2	Area	35.1	38.1	—	—
					Boom Lift	Area	38.9	41.9	—	—
					Chainsaw 1	Area	32.2	35.2	—	—
					Chainsaw 2	Area	33.5	36.5	—	—
					Chainsaw 3	Area	34.5	37.5	—	—
					Chainsaw 4	Area	31	34	—	—
					Dozer	Area	39.6	42.6	—	—
					Excavator 1	Area	39.5	42.5	—	—
					Excavator2	Area	39.5	42.5	—	—
					Loader 2	Area	17.9	20.9	—	—
					Loader 1	Area	17.9	20.9	—	—
					Road	Road	50.2	50.7	50.7	—
3	49.5	51.4	47.2	—	Backhoe 1	Area	34.5	37.5	—	—
					Backhoe 2	Area	34.5	37.5	—	—
					Boom Lift	Area	38.2	41.2	—	—
					Chainsaw 1	Area	31	34	—	—
					Chainsaw 2	Area	32.9	35.9	—	—
					Chainsaw 3	Area	33.6	36.6	—	—
					Chainsaw 4	Area	30.8	33.8	—	—
					Dozer	Area	39	42	—	—
					Excavator 1	Area	38.9	41.9	—	—
					Excavator2	Area	38.9	41.9	—	—

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Environmental Noise Control

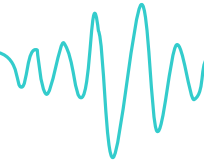


4	48.8	50.5	46.9	–	Loader 2	Area	17.3	20.3	–	–
					Loader 1	Area	17.3	20.3	–	–
					Road	Road	46.8	47.2	47.2	–
					Backhoe 1	Area	32.8	35.8	–	–
					Backhoe 2	Area	32.8	35.8	–	–
					Boom Lift	Area	36.9	39.9	–	–
					Chainsaw 1	Area	32.3	35.3	–	–
					Chainsaw 2	Area	31.4	34.5	–	–
					Chainsaw 3	Area	31.8	34.8	–	–
					Chainsaw 4	Area	30.5	33.5	–	–
					Dozer	Area	37.3	40.3	–	–
					Excavator 1	Area	37.5	40.5	–	–
					Excavator2	Area	37.5	40.5	–	–
					Loader 2	Area	15.6	18.6	–	–
					Loader 1	Area	15.6	18.6	–	–
					Road	Road	46.4	46.9	46.9	–
5	50.2	52.2	47.4	–	Backhoe 1	Area	35.2	38.2	–	–
					Backhoe 2	Area	35.2	38.2	–	–
					Boom Lift	Area	39.5	42.5	–	–
					Chainsaw 1	Area	34.8	37.8	–	–
					Chainsaw 2	Area	35.2	38.2	–	–
					Chainsaw 3	Area	35.4	38.4	–	–
					Chainsaw 4	Area	33.0	36.0	–	–
					Dozer	Area	39.7	42.7	–	–
					Excavator 1	Area	39.8	42.8	–	–
					Excavator2	Area	39.8	42.8	–	–
					Loader 2	Area	18.2	21.2	–	–
					Loader 1	Area	18.2	21.2	–	–
					Road	Road	46.9	47.4	47.4	–
					Backhoe 1	Area	36.8	39.8	–	–
					Backhoe 2	Area	36.8	39.8	–	–
					Boom Lift	Area	40.9	43.9	–	–
6	50.6	53.0	46.8	–	Chainsaw 1	Area	38	41.1	–	–
					Chainsaw 2	Area	35.9	38.9	–	–
					Chainsaw 3	Area	33.1	36.1	–	–
					Chainsaw 4	Area	32.7	35.7	–	–
					Dozer	Area	41.3	44.3	–	–
					Excavator 1	Area	41.1	44.1	–	–
					Excavator2	Area	41.1	44.1	–	–
					Loader 2	Area	19.7	22.7	–	–
					Loader 1	Area	19.7	22.7	–	–
					Road	Road	46.4	46.8	46.8	–



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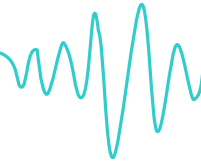
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7	49.4	51.8	44.8	—	Backhoe 1	Area	35.5	38.5	—	—
					Backhoe 2	Area	35.5	38.5	—	—
					Boom Lift	Area	39.6	42.6	—	—
					Chainsaw 1	Area	37.6	40.6	—	—
					Chainsaw 2	Area	34.9	37.9	—	—
					Chainsaw 3	Area	32.8	35.8	—	—
					Chainsaw 4	Area	32.4	35.4	—	—
					Dozer	Area	40.0	43.0	—	—
					Excavator 1	Area	40.3	43.3	—	—
					Excavator 2	Area	40.3	43.3	—	—
					Loader 2	Area	18.2	21.2	—	—
					Loader 1	Area	18.2	21.2	—	—
					Road	Road	44.4	44.8	44.8	—
8	58.2	59.2	57.9	—	Backhoe 1	Area	38.4	41.4	—	—
					Backhoe 2	Area	38.4	41.4	—	—
					Boom Lift	Area	42.4	45.4	—	—
					Chainsaw 1	Area	37.3	40.3	—	—
					Chainsaw 2	Area	36.5	39.5	—	—
					Chainsaw 3	Area	38.5	41.5	—	—
					Chainsaw 4	Area	34.6	37.7	—	—
					Dozer	Area	42.9	45.9	—	—
					Excavator 1	Area	42.8	45.8	—	—
					Excavator 2	Area	42.8	45.8	—	—
					Loader 2	Area	21.3	24.3	—	—
					Loader 1	Area	21.3	24.3	—	—
					Road	Road	57.4	57.9	57.9	—
9	54.4	57.0	47.9	—	Backhoe 1	Area	41.1	44.2	—	—
					Backhoe 2	Area	41.1	44.2	—	—
					Boom Lift	Area	45.5	48.5	—	—
					Chainsaw 1	Area	41.1	44.1	—	—
					Chainsaw 2	Area	38.9	41.9	—	—
					Chainsaw 3	Area	43.6	46.6	—	—
					Chainsaw 4	Area	38.9	41.9	—	—
					Dozer	Area	45.6	48.7	—	—
					Excavator 1	Area	45.4	48.4	—	—
					Excavator 2	Area	45.4	48.4	—	—
					Loader 2	Area	24.1	27.1	—	—
					Loader 1	Area	24.1	27.1	—	—
					Road	Road	47.4	47.9	47.9	—
10	53.5	56.3	42.3	—	Backhoe 1	Area	40.6	43.6	—	—
					Backhoe 2	Area	40.6	43.6	—	—
					Boom Lift	Area	44.9	48	—	—

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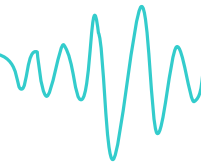
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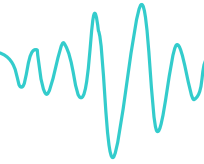
11	52.3	55.1	41.3	—	Chainsaw 1	Area	36.7	39.7	—	—
					Chainsaw 2	Area	36.4	39.4	—	—
					Chainsaw 3	Area	45.3	48.3	—	—
					Chainsaw 4	Area	40.8	43.8	—	—
					Dozer	Area	45.1	48.1	—	—
					Excavator 1	Area	45.1	48.1	—	—
					Excavator 2	Area	45.1	48.1	—	—
					Loader 2	Area	23.3	26.3	—	—
					Loader 1	Area	23.3	26.3	—	—
					Road	Road	41.8	42.3	42.3	—
					Backhoe 1	Area	39.3	42.3	—	—
					Backhoe 2	Area	39.3	42.3	—	—
					Boom Lift	Area	43.6	46.7	—	—
					Chainsaw 1	Area	35.1	38.1	—	—
					Chainsaw 2	Area	34.9	37.9	—	—
12	66.2	69.2	40.8	—	Chainsaw 3	Area	44.2	47.2	—	—
					Chainsaw 4	Area	40.3	43.3	—	—
					Dozer	Area	43.8	46.8	—	—
					Excavator 1	Area	43.8	46.8	—	—
					Excavator 2	Area	43.8	46.8	—	—
					Loader 2	Area	22.1	25.1	—	—
					Loader 1	Area	22.1	25.1	—	—
					Road	Road	40.9	41.3	41.3	—
					Backhoe 1	Area	53.2	56.2	—	—
					Backhoe 2	Area	53.2	56.2	—	—
					Boom Lift	Area	57.8	60.8	—	—
					Chainsaw 1	Area	41.9	44.9	—	—
					Chainsaw 2	Area	48.3	51.3	—	—
					Chainsaw 3	Area	48.9	51.9	—	—
					Chainsaw 4	Area	61.1	64.1	—	—
13	42.1	45.0	31.6	—	Dozer	Area	57.7	60.7	—	—
					Excavator 1	Area	57.4	60.4	—	—
					Excavator 2	Area	57.4	60.4	—	—
					Loader 2	Area	35.9	38.9	—	—
					Loader 1	Area	35.9	38.9	—	—
					Road	Road	40.3	40.8	40.8	—
					Backhoe 1	Area	29	32.0	—	—
					Backhoe 2	Area	29	32.0	—	—
					Boom Lift	Area	32.9	35.9	—	—
					Chainsaw 1	Area	27.2	30.2	—	—
					Chainsaw 2	Area	34.4	37.4	—	—

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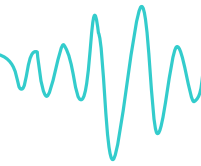


14	40.2	42.7	34.7	—	Chainsaw 3	Area	21.6	24.6	—	—
					Chainsaw 4	Area	24.6	27.6	—	—
					Dozer	Area	33.5	36.5	—	—
					Excavator 1	Area	34.4	37.4	—	—
					Excavator 2	Area	34.4	37.4	—	—
					Loader 2	Area	10.9	13.9	—	—
					Loader 1	Area	10.9	13.9	—	—
					Road	Road	31.1	31.6	31.6	—
					Backhoe 1	Area	26.6	29.7	—	—
					Backhoe 2	Area	26.6	29.7	—	—
					Boom Lift	Area	30.6	33.6	—	—
					Chainsaw 1	Area	22.9	25.9	—	—
					Chainsaw 2	Area	27.4	30.4	—	—
					Chainsaw 3	Area	21.7	24.7	—	—
					Chainsaw 4	Area	23.7	26.7	—	—
15	37.3	40.1	28.1	—	Dozer	Area	31.1	34.2	—	—
					Excavator 1	Area	32.1	35.1	—	—
					Excavator 2	Area	32.1	35.1	—	—
					Loader 2	Area	8.6	11.6	—	—
					Loader 1	Area	8.6	11.6	—	—
					Road	Road	34.2	34.7	34.7	—
					Backhoe 1	Area	24.8	27.8	—	—
					Backhoe 2	Area	24.8	27.8	—	—
					Boom Lift	Area	28.5	31.5	—	—
					Chainsaw 1	Area	21.3	24.3	—	—
					Chainsaw 2	Area	22.8	25.8	—	—
					Chainsaw 3	Area	18.4	21.4	—	—
					Chainsaw 4	Area	20.8	23.8	—	—
					Dozer	Area	29.3	32.3	—	—
					Excavator 1	Area	30.1	33.1	—	—
					Excavator 2	Area	30.1	33.1	—	—
					Loader 2	Area	6.5	9.5	—	—
					Loader 1	Area	6.5	9.5	—	—
					Road	Road	27.6	28.1	28.1	—



**Table D-9 Scenario 3 Noise Source Contribution at Receptors**

Receiver	CNEL/dB (A)	Ld/dB(A)	Le/dB(A)	Ln/dB(A)	Equipment Source Contribution Descending Order	Source type	CNEL dB(A)	Ld dB(A)	Le dB(A)	Ln dB(A)
1	54.4	56.4	51.4	–	Backhoe 1	Area	40.3	43.3	–	–
					Backhoe 2	Area	40.3	43.3	–	–
					Dozer	Area	44.8	47.8	–	–
					Grader	Area	45.1	48.1	–	–
					Excavator1	Area	46.6	49.6	–	–
					Loader 1	Area	23.2	26.2	–	–
					Loader 2	Area	23.2	26.2	–	–
					Soil Compactor	Area	43	46	–	–
					Road	Road	50.9	51.4	51.4	–
2	53.3	55.3	50.3	–	Backhoe 1	Area	39	42	–	–
					Backhoe 2	Area	39	42	–	–
					Dozer	Area	43.5	46.6	–	–
					Grader	Area	44	47	–	–
					Excavator1	Area	45.5	48.5	–	–
					Loader 1	Area	22	25	–	–
					Loader 2	Area	22	25	–	–
					Soil Compactor	Area	41.9	44.9	–	–
					Road	Road	49.9	50.3	50.3	–
3	51.5	53.9	46.6	–	Backhoe 1	Area	38.4	41.5	–	–
					Backhoe 2	Area	38.5	41.5	–	–
					Dozer	Area	43	46	–	–
					Grader	Area	43.3	46.3	–	–
					Excavator1	Area	44.9	47.9	–	–
					Loader 1	Area	21.4	24.4	–	–
					Loader 2	Area	21.4	24.4	–	–
					Soil Compactor	Area	41.1	44.1	–	–
					Road	Road	46.1	46.6	46.6	–
4	49.6	51.9	45.6	–	Backhoe 1	Area	36.3	39.3	–	–
					Backhoe 2	Area	36.3	39.3	–	–
					Dozer	Area	40.8	43.8	–	–
					Grader	Area	40.9	43.9	–	–
					Excavator1	Area	43	46	–	–
					Loader 1	Area	18.9	22	–	–
					Loader 2	Area	18.9	22	–	–
					Soil Compactor	Area	38.3	41.3	–	–
					Road	Road	45.1	45.6	45.6	–
5	50.1	52.7	44.0	–	Backhoe 1	Area	37.5	40.5	–	–

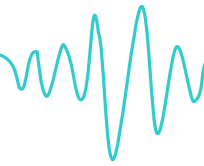


						Backhoe 2	Area	37.5	40.5	—	—
						Dozer	Area	42	45.1	—	—
						Grader	Area	42.3	45.3	—	—
						Excavator1	Area	44.1	47.1	—	—
						Loader 1	Area	20.3	23.3	—	—
						Loader 2	Area	20.3	23.3	—	—
						Soil Compactor	Area	40	43	—	—
						Road	Road	43.5	44	44	—
						Backhoe 1	Area	35.6	38.6	—	—
6	47.8	50.5	40.0	—		Backhoe 2	Area	35.6	38.6	—	—
						Dozer	Area	40.1	43.1	—	—
						Grader	Area	40.1	43.2	—	—
						Excavator1	Area	42.4	45.4	—	—
						Loader 1	Area	18.2	21.2	—	—
						Loader 2	Area	18.2	21.2	—	—
						Soil Compactor	Area	37.5	40.5	—	—
						Road	Road	39.5	40	40	—
						Backhoe 1	Area	34.4	37.4	—	—
7	46.3	49.1	36.4	—		Backhoe 2	Area	34.4	37.4	—	—
						Dozer	Area	38.9	41.9	—	—
						Grader	Area	38.9	41.9	—	—
						Excavator1	Area	41.3	44.3	—	—
						Loader 1	Area	16.9	19.9	—	—
						Loader 2	Area	16.9	19.9	—	—
						Soil Compactor	Area	36	39	—	—
						Road	Road	35.9	36.4	36.4	—
						Backhoe 1	Area	46.6	49.6	—	—
8	60.6	62.7	57.6	—		Backhoe 2	Area	46.7	49.7	—	—
						Dozer	Area	51.2	54.2	—	—
						Grader	Area	51.4	54.4	—	—
						Excavator1	Area	52.7	55.7	—	—
						Loader 1	Area	29.5	32.5	—	—
						Loader 2	Area	29.5	32.5	—	—
						Soil Compactor	Area	49.5	52.5	—	—
						Road	Road	57.1	57.6	57.6	—
						Backhoe 1	Area	59.9	62.9	—	—
9	71.1	74.1	45.8	—		Backhoe 2	Area	59.8	62.8	—	—
						Dozer	Area	64.1	67.1	—	—
						Grader	Area	64.2	67.2	—	—
						Excavator1	Area	65.8	68.8	—	—
						Loader 1	Area	42.3	45.3	—	—
						Loader 2	Area	42.3	45.3	—	—



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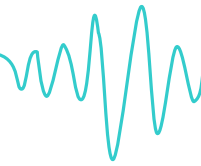
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					Soil Compactor	Area	62.4	65.4	–	–
					Road	Road	45.4	45.8	45.8	–
10	66.2	69.2	39.2	–	Backhoe 1	Area	55	58	–	–
					Backhoe 2	Area	54.7	57.7	–	–
					Dozer	Area	59.1	62.1	–	–
					Grader	Area	59.4	62.4	–	–
					Excavator1	Area	60.9	63.9	–	–
					Loader 1	Area	37.5	40.5	–	–
					Loader 2	Area	37.5	40.5	–	–
					Soil Compactor	Area	57.7	60.8	–	–
					Road	Road	38.7	39.2	39.2	–
11	61.1	64.1	38.5	–	Backhoe 1	Area	49.8	52.8	–	–
					Backhoe 2	Area	49.7	52.7	–	–
					Dozer	Area	54.1	57.2	–	–
					Grader	Area	54.4	57.4	–	–
					Excavator1	Area	55.8	58.8	–	–
					Loader 1	Area	32.5	35.5	–	–
					Loader 2	Area	32.5	35.5	–	–
					Soil Compactor	Area	52.6	55.7	–	–
					Road	Road	38.1	38.5	38.5	–
12	51.1	54.1	35.5	–	Backhoe 1	Area	39.5	42.5	–	–
					Backhoe 2	Area	39.5	42.5	–	–
					Dozer	Area	44	47	–	–
					Grader	Area	44.1	47.1	–	–
					Excavator1	Area	46.2	49.2	–	–
					Loader 1	Area	22.2	25.2	–	–
					Loader 2	Area	22.2	25.2	–	–
					Soil Compactor	Area	41.8	44.8	–	–
					Road	Road	35	35.5	35.5	–
13	33.9	36.5	27.3	–	Backhoe 1	Area	21.8	24.8	–	–
					Backhoe 2	Area	21.8	24.8	–	–
					Dozer	Area	26.3	29.3	–	–
					Grader	Area	25.2	28.2	–	–
					Excavator1	Area	29.1	32.1	–	–
					Loader 1	Area	3.4	6.4	–	–
					Loader 2	Area	3.4	6.4	–	–
					Soil Compactor	Area	19.7	22.7	–	–
					Road	Road	26.9	27.3	27.3	–
14	35.3	37.4	32.1	–	Backhoe 1	Area	21.8	24.8	–	–
					Backhoe 2	Area	21.8	24.8	–	–
					Dozer	Area	26.3	29.4	–	–

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						Grader	Area	25.2	28.2	—	—
						Excavator1	Area	29	32.1	—	—
						Loader 1	Area	3.4	6.5	—	—
						Loader 2	Area	3.4	6.5	—	—
						Soil Compactor	Area	19.7	22.7	—	—
						Road	Road	31.6	32.1	32.1	—
						Backhoe 1	Area	20.5	23.5	—	—
						Backhoe 2	Area	20.5	23.5	—	—
						Dozer	Area	25	28	—	—
						Grader	Area	23.7	26.7	—	—
15	32.2	34.9	24.2	—		Excavator1	Area	27.7	30.7	—	—
						Loader 1	Area	2	5	—	—
						Loader 2	Area	2	5	—	—
						Soil Compactor	Area	18.1	21.1	—	—
						Road	Road	23.7	24.2	24.2	—

## **Appendix H**

### Traffic Analysis

## **Appendix H – Traffic Analysis**

<b><u>Section</u></b>	<b><u>Page #</u></b>
Traffic, Parking and VMT Analysis.....	H-1



# ASSOCIATED TRANSPORTATION ENGINEERS

100 N. Hope Avenue, Suite 4, Santa Barbara, CA 93110 • (805)687-4418 • [main@atesb.com](mailto:main@atesb.com)

Since 1978

Richard L. Pool, P.E.

Scott A. Schell

June 16, 2021

21043L03

Jennifer Leighton  
Senior Project Manager  
Padre Associates, inc.  
1861 Knoll Drive  
Ventura, CA 93003

## ***TRAFFIC, PARKING AND VMT ANALYSIS FOR THE DECOMMISSIONING AND REMEDIATION OF THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES – CITY OF CARPINTERIA***

Associated Transportation Engineers (ATE) has prepared the following traffic, parking and Vehicle Miles Travelled (VMT) analysis for the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities (the “Project”), located in the City of Carpinteria. The study reviews baseline traffic conditions in the Project study area, evaluates the effects of the Project’s proposed demolition and haul activities, and recommends traffic and parking management strategies for the demolition phase. A discussion of potential Vehicle Miles Traveled (VMT) impacts is also provided.

### **PROJECT DESCRIPTION**

The Project involves the demolition and remediation of the existing oil and gas facilities located in the Carpinteria Buffs area of the City, as shown on Figure 1. Access to the site is provided by Dump Road which extends south from Carpinteria Avenue to the site. The demolished materials would be exported from the site via US 101, Carpinteria Avenue, Bailard Avenue and Dump Road.

### **PROJECT OPERATIONAL DATA**

The demolition, soil remediation, and hauling activities are estimated to take approximately 3 years (intermittently) to complete. An estimated total of 5,445 truckloads (including 169 loads for equipment removal, 1,119 loads for surface materials removal, and 4,157 loads for



soil remediation) will be required to transport the various waste streams from the Project site (including steel scrap material, foundation and surface materials, subsurface piping, and remediated soils).

Depending upon the material loaded for hauling, approximately 18-22 tons or 9-16 cubic yards per truckload will fit into each dump truck. A conservative worst-case day utilizing the shortest trucking route to the Waste Management Landfill in Simi Valley or the State Ready Mix site in Oxnard will allow for up to 2.5 trips/day x 16 trucks or approximately 40 truck trips per day to/from the Project site, however, an average day will more likely utilize approximately 16 trucks. Based on this average day, approximately 350 tons (16 trucks x 22 tons) of material will be transferred from the Project site. If 350 tons were loaded on an average hauling day, approximately 16 hauling days will be required to dispose of the total waste from the Project site. However, it is likely that hauling days will be spread out during the course of the Project, resulting in fewer required trips per day. The Project description indicates that haul trucks will be restricted during the morning (7:00 AM - 9:00 AM) and afternoon (4:00 PM - 6:00 PM) commute periods. It is anticipated that 10 to 15 employees would be required at the site for demolition and loading activities.



## **PROPOSED TRUCK ROUTE**

As shown on Figure 2, trucks travelling to the Project site would exit US 101 at the Bailard Avenue interchange, proceed south on Bailard Avenue to Carpinteria Avenue, then west on Carpinteria Avenue to Dump Road. After picking up their loads, the trucks will return to the US 101 southbound on-ramp at the Bailard Avenue interchange via the same route in reverse (see Figures 3).

It is noted that the Project site includes areas north and south of the Union Pacific Railroad (UPRR) tracks. The Project area south of the UPRR is currently used as employee parking and equipment staging in support of the industrial use of the pier. The demolition and remediation project will continue to access this southern area from Dump Road across the UPRR right-of-way as currently occurs. It is anticipated that traffic volumes at the crossing will be at approximately the same levels as currently exist during the demolition and remediation phase compared to current operations.

## EXISTING TRANSPORTATION CONDITIONS

### Street Network

The Project site is served by a network of highways, arterial roadways, and collector streets, as shown on Figure 2. The following text provides a brief description of the major components of the street network.

**US 101**, located north of site, connects the City of Carpinteria with the Santa Barbara-Goleta area to the north and the Ventura-Oxnard area to the south. Access between the Project site and US 101 is provided via the Bailard Avenue interchange located east of the site, and the Casitas Pass Road interchange located west of the site. US 101 is currently being widened to 3 lanes in each direction from Bailard Avenue to Summerland.

**Bailard Avenue**, located east of the Project site, is a two-lane roadway that extends north from Carpinteria Avenue to its terminus north of US 101. Bailard Avenue would provide access between the site to US 101 via a full access interchange.

**Carpinteria Avenue**, located along the Project's northern frontage, is an east-west 2-lane arterial roadway that serves as one of the primary travel routes within the City of Carpinteria. Access to the Project site would be provided via the connection of Dump Road to Carpinteria Avenue.

**Dump Road**, located along the western boundary of the Project site, is a two-lane private road that extends south from Carpinteria to the Chevron site, terminating at the employee parking lots located south of the Union Pacific Railroad (UPRR) tracks. Dump Road would be used by the Project haul trucks and demolition/remediation employees to access the site.

### Existing Intersection Operations

Because traffic flow on urban arterials is most constrained at intersections, detailed traffic flow analyses focus on the operating conditions of critical intersections during peak travel periods. "Levels of Service" (LOS) A through F are used to evaluate intersection operations, with LOS A indicating free flow conditions and LOS F indicating severe congestion (more complete definitions of levels of service are attached). The City of Carpinteria Circulation Element has adopted LOS C as the minimum acceptable operating standard for intersections.

Existing intersection levels of service for the study-area intersections were obtained from the traffic and circulation study completed for the Punto Vista Project<sup>1</sup> located on the Carpinteria Bluffs area east of the Project site. Table 1 lists the existing AM and PM peak hour levels of service for the study-area intersections.

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<sup>1</sup> Revised Traffic, Circulation and Parking Study for the Punto de Vista Project, Associated Transportation Engineers, January 2021.

**Table 1**  
**Existing Intersection Levels of Service**

<b>Intersection</b>	<b>AM Peak Hour LOS</b>	<b>PM Peak Hour LOS</b>
US 101 NB Ramps/Bailard Ave	LOS C	LOS B
US 101 SB Ramps/Bailard Ave	LOS B	LOS C
Carpinteria Ave/Bailard Ave	LOS B	LOS B
Carpinteria Ave/Casitas Pass Rd	LOS C	LOS C

The data presented in Table 1 indicate that the study-area intersections currently operate in the LOS B-C range, which meets the City's LOS C standard.

## **PROJECT TRIP GENERATION**

Trip generation estimates were developed for the Project based on the operational data provided by the applicant (number of employees and employee shifts, number of haul trucks, number of deliveries, etc.). The analysis assumes a 15% carpool rate for employees based on the commute mode split data published by SBCAG for Santa Barbara County (attached). Table 2 shows the trip generation estimates developed for the Project based on the proposed operations.

**Table 2**  
**Project Trip Generation Estimates**

<b>Project Component</b>	<b>Number per Day</b>	<b>Shift Schedule</b>	<b>Trip Generation</b>		
			<b>ADT</b>	<b>AM Peak</b>	<b>PM Peak</b>
Employees (a)	15 per day	7:00 AM – 5:00 PM	26	13	13
Haul Trucks (b)	16 per day	9:00 AM – 4:00 PM	32	0	0
Deliveries (c)	2 per day	9:00 AM – 4:00 PM	4	0	0
<b>Total</b>			<b>62</b>	<b>13</b>	<b>13</b>
<b>Total</b>					

(a) Employees: Trip generation assume 15% carpooling based on SBCAG carpool data. ADT assumes 1 inbound + 1 outbound trip per employee vehicle. Peak hour trips based on arrival/departures during the 7-9 AM and 4-6 PM peak periods.

(b) Trip generation assumes 1 inbound + 1 outbound trip per haul truck with no trips occurring during the AM and PM peak periods based on the proposed restrictions.

(c) Trip generation assumes 1 inbound + 1 outbound trip per delivery vehicle with no trips occurring during the AM and PM peak periods based on the proposed restrictions.

As shown in Table 2, the Project would generate 62 ADT, 13 AM peak hour trips, and 13 PM peak hour trips.

## TRAFFIC THRESHOLDS AND POLICIES

The City of Carpinteria's traffic thresholds and policies were used to assess the consistency of the Project with the City's transportation policies. These thresholds are outlined below.

### *Project Threshold*

If the addition of project traffic to an intersection increases the volume to capacity (V/C) ratio, the seconds of delay, or the number of trips by more than the values provided in the table below, the Project is considered potentially inconsistent.

Significant Changes in Levels of Service	
Intersection Level of Service (Including Project)	Increase Greater Than
LOS A	0.20 V/C Ratio or 10.0 Seconds of Delay
LOS B	0.15 V/C Ratio or 7.5 Seconds of Delay
LOS C	0.10 V/C Ratio or 5.0 Seconds of Delay
LOS D	15 Trips
LOS E	10 Trips
LOS F	5 Trips

### *Cumulative Threshold*

A cumulative policy inconsistency would occur if a development's traffic would utilize a substantial portion of an intersection's capacity where the intersection is currently operating at acceptable levels of service (A-C) but with cumulative traffic would degrade to or approach LOS D or lower. Substantial is defined as a minimum change of 3 seconds of delay for an intersection forecast to operate at LOS D, a minimum change of 2 seconds of delay for an intersection forecast to operate at LOS E, and a minimum change of 1.5 seconds of delay for an intersection forecast to operate at LOS F.

## TRANSPORTATION CONSISTENCY ANALYSIS

Figures 4 and 5 show the employee travel routes to and from the Project site. As shown, employees travelling from the south would exit US 101 at the Bailard Avenue interchange and then proceed westerly on Carpinteria Avenue to arrive at the Project site (and the same route in reverse when departing the site). Employees travelling from the north would exit US 101 at the Casitas Pass Road interchange and then proceed easterly on Carpinteria Avenue to arrive at the Project site (and the same route in reverse when departing the site). Local Carpinteria traffic would travel to and from the Project site via Carpinteria Avenue.

Tables 3 and 4 list the Project's traffic additions at the US 101/Bailard Avenue interchange and the Carpinteria Avenue/Casitas Pass Road intersection; and identify potential inconsistencies with the City's transportation policies and thresholds.

**Table 3**  
**Project Traffic Additions – AM Peak Hour**

<b><i>Intersection</i></b>	<b>AM LOS</b>	<b>Project-Added Trips(a)</b>	<b>Consistent?</b>
US 101 NB Ramps/Bailard Ave	LOS C	6 PHT	YES
US 101 SB Ramps/Bailard Ave	LOS B	6 PHT	YES
Carpinteria Ave Ramps/Bailard Ave	LOS B	6 PHT	YES
Carpinteria Ave/Casitas Pass Rd	LOS C	7 PHT	YES

(a) Includes Project employee trips. Truck trips restricted during peak hour periods.

**Table 4**  
**Project Traffic Additions – PM Peak Hour**

<b><i>Intersection</i></b>	<b>PM LOS</b>	<b>Project-Added Trips(a)</b>	<b>Consistent?</b>
US 101 NB Ramps/Bailard Ave	LOS B	6 PHT	YES
US 101 SB Ramps/Bailard Ave	LOS C	6 PHT	YES
Carpinteria Ave Ramps/Bailard Ave	LOS B	6 PHT	YES
Carpinteria Ave/Casitas Pass Rd	LOS C	7 PHT	YES

(a) Includes Project employee trips. Truck trips restricted during peak hour periods.

As shown in Tables 3 and 4, the Project would add 6 AM and 6 PM PHT to the Bailard Avenue interchange and 7 PHT to the Carpinteria Avenue/Casitas Pass Road intersection. These relatively minor traffic additions would not exceed the City's traffic policies.

## **SITE ACCESS**

### **Intersection Design**

Access to the Project site would be provided via the Carpinteria Avenue/Dump Road intersection. The intersection is controlled by stop signs on the northbound Dump Road approach and the driveway to the Alamo Self Storage facility forms the north leg of the intersection. Carpinteria Avenue contains one through lane and a left-turn lane in each direction at the intersection. The Dump Road approach flares to approximately 48 feet in width at Carpinteria Avenue. The design of the intersection is adequate to accommodate the haul truck maneuvers to and from Carpinteria Avenue.



## Intersection Operations

As noted in the Trip Generation section, the Project is forecast to generate 62 ADT and 13 AM and PM peak hour trips. This relatively minor level of traffic would be accommodated at the Carpinteria Avenue/Dump Road intersection without significant delays or congestion.

## Intersection Sight Distance

Sight distances were analyzed at the Carpinteria Avenue/Dump Road intersection to determine if the sight lines along Carpinteria Avenue are sufficient in length to permit drivers to anticipate and avoid potential collisions when using the intersection. The Caltrans Highway Design Manual stopping sight distance standards were used to determine the requirements at the intersection.<sup>2</sup> The speed limit on Carpinteria Avenue adjacent to Dump Road is 35 MPH. Assuming a conservative 40 MPH design speed, the Caltrans corner sight distance standard is 440 feet.

Dump Road is located on a section of Carpinteria Avenue that is relatively flat with horizontal curves located to the east and the west. As shown on Figure 6, the sight distance looking to the west extends approximately 970 feet to a curve in Carpinteria Avenue. The sight distance looking to the east extends approximately 660 feet to a curve in Carpinteria Avenue. These sight distances exceed the Caltrans 440-foot minimum requirement – indicating adequate sight distances for vehicles entering and exiting the intersection.

## PARKING AND VEHICLE STAGING

The Project would utilize 10 to 15 employees during peak demolition and remediation periods. There will also be demolition and soil excavation equipment that will need to be staged onsite. Employee parking and equipment staging would be easily accommodated at various locations on the 55-acre site during each phase of the Project. The construction management plan will develop employee parking and equipment staging areas as the Project proceeds in sequence.

## VMT ANALYSIS

CEQA Guidelines. The VMT thresholds and analysis procedures outlined in the California Governor's Office of Planning and Research (OPR) Technical Advisory on Transportation Impacts in CEQA<sup>3</sup> provide the following guidance on the types of vehicles that are subject to the VMT significance criteria:

---

<sup>2</sup> Highway Design Manual, California Department of Transportation, 7<sup>th</sup> Edition, July 2020.

<sup>3</sup> Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor's Office of Planning and Research, December 2018.

**“Vehicle Types.** Proposed Section 15064.3, subdivision (a), states, “For the purposes of this section, ‘vehicle miles traveled’ refers to the amount and distance of automobile travel attributable to a project.” Here, the term “automobile” refers to on-road passenger vehicles, specifically cars and light trucks.”

The Technical Advisory also provides screening tools to determine when a project may have a significant VMT impacts, as follows:

“Many agencies use “screening thresholds” to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed study. (See e.g., CEQA Guidelines, §§ 15063(c)(3)(C), 15128, and Appendix G.) As explained below, this technical advisory suggests that lead agencies may screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing.

*Screening Threshold for Small Projects*

Many local agencies have developed screening thresholds to indicate when detailed analysis is needed. Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than significant transportation impact.”

The data presented in Table 2 indicate that the employee component of the Project would generate 26 average daily vehicle trips (excluding truck trips). The Project would therefore have a “less-than-significant” VMT impact based on the CEQA guidelines screening criteria for small projects (110 ADT or less).

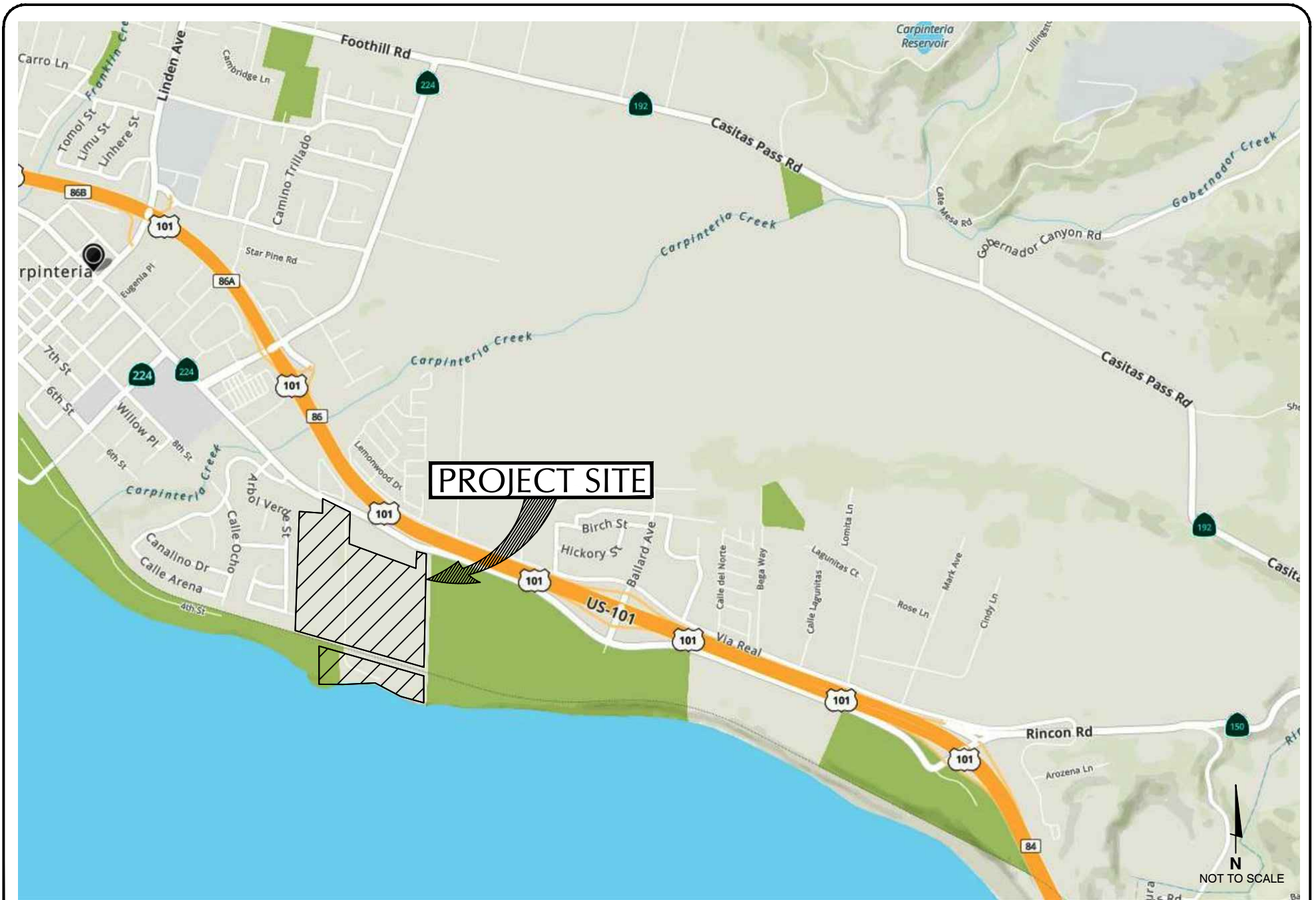
This concludes ATE’s traffic, parking and VMT analysis for the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities



Scott A. Schell  
Principal Transportation Planner

SAS

Attachments



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TRANSPORTATION  
ENGINEERS

## PROJECT SITE LOCATION

FIGURE 1

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## INBOUND TRUCK ROUTES

FIGURE 2

JH - ATE#21043





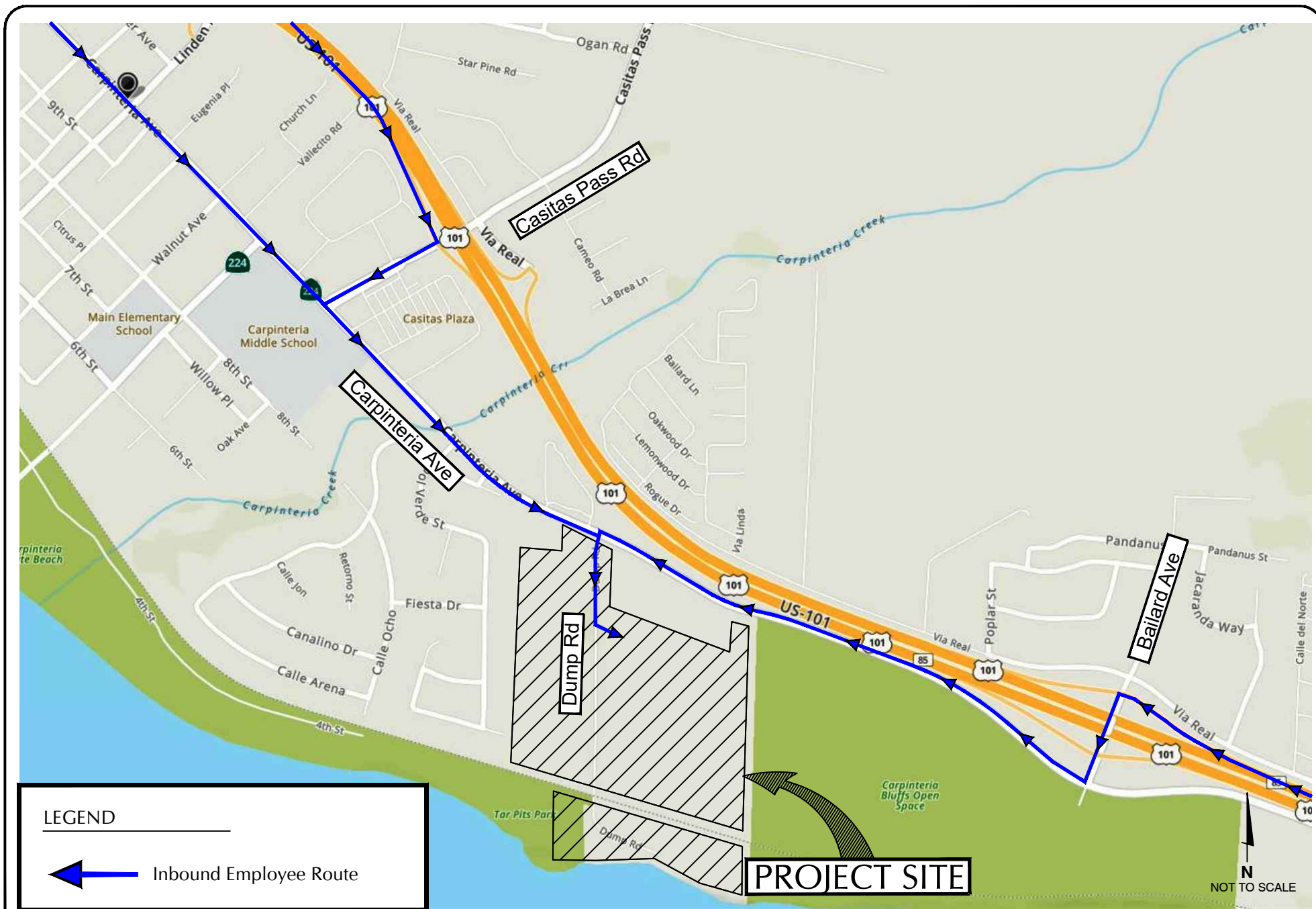
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## OUTBOUND TRUCK ROUTES

FIGURE 3

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## INBOUND EMPLOYEE ROUTES

FIGURE 4

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## OUTBOUND EMPLOYEE ROUTES

FIGURE 5

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Looking West



Looking East



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# CARPINTERIA AVENUE / DUMP ROAD INTERSECTION SIGHT DISTANCE

FIGURE

6

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## **Appendix I**

### **Draft EIR Comments and Responses**

## **Appendix I – Draft EIR Comments and Responses**

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**Appendix I**  
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Comment Number	Response
<b>D Allen</b>	
DA-1	The comment discusses the impacts of the Full Removal Alternative; however, no well-capping activities or cleanup of oil seeps are proposed south of the railroad tracks as stated in the comment. While the Project as proposed would result in some disturbances as described in the EIR, those impacts are considered temporary. Impacts to seals are analyzed in Section 4.3, Biological Resources and the impacts are found to be temporary and less than significant with mitigation. Project decommissioning activities, including excavation, removal of cement armaments, removal of rip rap, cutting of the pipe into sections and pulling of pipe sections offshore, have the potential to cause a significant disturbance to harbor seals if they are hauled-out on the beach during Project activities. Although no injury or mortality is expected to occur, even Project-related foot traffic on the beach may cause hauled-out harbor seals to startle and flush into the water, which could qualify as a Level B harassment as defined by NOAA Fisheries (disrupting behavioral patterns). Beach/bluff and Surf Zone construction noise, related to operating heavy equipment, concrete demolition and ground disturbance has the potential to temporarily increase noise levels adjacent to the harbor seal rookery. Robust mitigation has been included in the EIR to assure that impacts to seals will be adequately mitigated. Mitigation Measure Bio.1g, Harbor Seal Rookery Monitoring and Protection, provides a number of protections for the seals during construction activities including limiting the work to daytime hours, minimizing work zones, visual screens, sensitivity training, reduction of personnel on the beach, and the inclusion of monitors, among others. As stated in the Project Description, surf zone pipeline removal operations would be scheduled to avoid the most sensitive periods (December 1 through May 31) when the haul-out area is in use by harbor seals.
DA-2	Existing light conditions are part of the baseline and part of ongoing operations at the pier and are therefore not impacts of the Project required to be analyzed in the EIR. The Project as proposed would only include short-term lighting during critical work activities. During those critical times, mitigation will be put in place to use low intensity lighting and light shielding as described in mitigation Measure A.4, Beach/Nearshore Night-Lighting Minimization.
DA-3	No removal or capping of old wells is proposed as part of the Project. The Full Removal Alternative discusses potential plugging and abandonment of wells, all of which are located north of the railroad tracks. Temporary stockpiling of soils, parking, and storage of construction equipment at the Project Site would potentially be visible during the three-year Project duration. Impacts are analyzed in Section 4.1, Aesthetics in the EIR. Impacts to seals are analyzed in Section 4.3 of the EIR and seal impacts are discussed in response to comment DA-1 above. These features would be partially screened by the windrow trees or other vegetation but may be potentially seen by the public from certain viewpoints on a temporary basis as described under Impact A.1 in the Aesthetics Section of the EIR. Where appropriate, construction fencing would be in place during decommissioning efforts. Fencing requirements are described under Mitigation Measure Bio.1d. Additionally, these impacts would be temporary in nature and thus the aesthetic impacts would be less than significant.
DA-4	The comment appears to be a statement of access through Dump Road through the years and not specific to the DEIR. As indicated in this comment, Dump Road has been periodically used by the public for access to the coast and the Carpinteria Bluffs Trail. The Project may involve temporary closures of Dump Road for public safety reasons. Therefore, there may be a small impact on the public's ability to access the coast using Dump Road. However, street closures associated with the Project would be temporary and therefore would not constitute a significant impact. As noted in Section 4.13.6 of the DEIR, the Project would not change any access or use of Tar Pits Park or the Carpinteria Bluffs Trail; however, Project activities have the potential for a short-term interruption in trail use for safety reasons. However, the interruption in trail use would be short-term and temporary and would not result in significant adverse impacts related to recreation.
DA-5	The comment appears to be related to existing signs and baseline conditions on Dump Road, and not related to the DEIR or the Project.
DA-6	No active long-term closure of Dump Road is envisioned in the proposed Project and an assumption that the Project could result in the future closure of Dump Road is speculative. However, transportation of materials and Project activities along Dump Road may result in safety concerns that may warrant limiting access along the roadway temporarily. No recreational impact is envisioned as a result. Please see response to DA-4 above.
DA-7	The EIR contains mitigation to ensure that impacts to seals are adequately mitigated. Mitigation Measure Bio.1g, Harbor Seal Rookery Monitoring and Protection, provides a number of protections for the seals during construction

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	activities including limiting the work to daytime hours, minimizing work zones, visual screens, sensitivity training, reduction of personnel on the beach, and the inclusion of monitors, among others. Please see response to comment DA-1 above. Pipeline removal is scheduled to ensure minimal impacts to the seal rookery. The total period of time for all offshore pipeline removal will not exceed a two-month period as detailed in the DEIR Project Description.
DA-8	Lighting on the beach would only occur rarely and only if warranted during critical work activities depending on tidal and weather conditions. As stated in Mitigation Measure Bio-1g Harbor Seal Rookery Monitoring and Protection, Project activities shall be scheduled during low tide windows and limited to daylight hours only to maximize visibility and ensure safety during repair work.
DA-9	As discussed in the DEIR, Project decommissioning activities, including excavation, removal of cement armaments, removal of rip rap, cutting of the pipe into sections and pulling of pipe sections offshore, have the potential to cause a significant disturbance to harbor seals if they are on the beach during Project activities. As mentioned in response to DA-8 above, disturbance would be limited to daytime hours unless necessary during critical work activities. Those activities, if needed, would be of short duration and mitigation measures have been included to ensure maximum protection to the harbor seals as part of Mitigation Measure Bio.1g, Harbor Seal Rookery Monitoring and Protection.
DA-10	Additional surveys were not deemed necessary prior to the work. The mitigation measures are designed to be protective of the seals regardless of the levels of seal population present at the Site. Impacts have been deemed temporary and less than significant with mitigation regardless of the numbers of seals on the beach. In addition, as part of Mitigation Measure Bio.1g, Harbor Seal Rookery Monitoring and Protection, under numeral 7, requires that the Monitor count and record the number and species of all marine mammals that are within the Project area (within visual range along the beach) and take photographs of the Project Site and access route. At regular intervals during the day, the monitor shall record the number and location of harbor seals and document the decommissioning activities.
DA-11	Requiring a camera to observe seal activity as a mitigation measure is not contemplated in the DEIR. Impacts that might occur to the seals would occur during times when decommissioning activities will be occurring and when monitors will be present. There is no nexus for monitoring the seals activities during times when work activities are not occurring.
DA-12	As mentioned previously, the Project Description contains a construction schedule indicating the times when decommissioning activities will occur at the Project Site. Mitigation measures are included in the FEIR to ensure that any temporary impacts to the seal rookery are minimized.
<b>Susan Allen</b>	
SA-1	The Full Removal Alternative is included in the EIR for full disclosure and consideration by decision makers. The Full Removal Alternative was found to be infeasible after further review and analysis, and a new alternative that maximizes feasible removal operations is included in the EIR and selected as the ESA. (Please see Section 5.0, Environmental Analysis and Comparison of Alternatives in the EIR). However, the only activities proposed south of the railroad tracks under this alternative would be the removal of the pipeline bundles from the previously decommissioned platforms Hilda and Hazel. That pipeline bundle is located farther away from the seal rookery and impacts similar to those that would occur under the removal of the marketing terminal pipelines are expected to occur. Measures have been included to ensure maximum protection to the harbor seals as part of Mitigation Measure Bio.1g, Harbor Seal Rookery Monitoring and Protection. Also, please see the response to DA-1 above.
SA-2	The wells are not slated for removal by Chevron at this time and thus removal is not a component of the Project. Wells plugging and abandonment and their impacts are discussed in the context of the Full Removal Alternative. In addition, CalGEM provided a comment letter stating that there are no legal requirements compelling the Applicant to plug and abandon those wells at this time. It should be noted that the wells are antiquated and considered dry holes and have never produced oil or gas according to the CalGEM records. In the event someone wants to develop the Site in the future, that developer would be required to plug and abandon the wells if their development activities are likely to interfere with the well head locations. Finally, some of the wells might be considered by CalGEM as part of their orphan well abandonment program and be properly plugged under that program in the future.

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SA-3	Substantial soil testing has occurred throughout the Site and Chevron is continuing to work with the EPA and the Santa Barbara County Environmental Health Services to finalize a Remedial Action Plan that will address any remaining contaminants at the Project Site. Impacts are discussed under Section 4.7, Hazardous Materials and Risk of Upset. Specific mention is made under the discussion for Impact Haz.4.
SA-4	The Pitas Point Odorant Station is not part of Chevron's facilities and is owned by SoCalGas. The City is engaged with SoCalGas in a separate process to ensure that those facilities are properly decommissioned in the future.
SA-5	Please see responses to SA-1 and SA-2 above. The City has been working with Chevron to ensure that the Hilda/Hazel pipeline bundle is removed as part of the efforts undertaken by this Project. The Final EIR under Section 5.0 Environmental Analysis and Comparison of Alternatives contains a new alternative that analyzes the impacts associated with removal of Hilda/Hazel pipeline bundle. This new alternative was found to be the Environmentally Superior Alternative.
SA-6	The Pier Parking Lot area will be revegetated in accordance with Mitigation Measure Bio.1b, Habitat Restoration/Revegetation Plan.
SA-7	There are no expected impacts on recreational users from Project activities related to concrete or contaminated material removal. It is possible that access through Dump Road might be limited for safety reasons at certain times depending on Project activities. See responses above under DA-4 and DA-6.
SA-8	The EIR preparers have informed Chevron of the comment; however, work on the path to the Seal overlook was not included as part of the proposed Project.
SA-9	Surface facilities demolition and soil remediation are slated to occur at the Marketing Terminal as required by agencies and as part of the overall decommissioning Project as discussed in Section 2.0, Project Description. Mitigation measures have been put in place to reduce any temporary impacts to nearby neighbors as appropriate. The County requires the implementation of standard dust control measures as detailed in the SBCAPCD Air Quality Attainment Plan (SBCAPCD 2022a) and the County Environmental Thresholds and Guidelines Manual for all construction projects (SBC 2021b). Because the County is a non-attainment area for PM <sub>10</sub> , Rule 345, Control of Fugitive Dust from Construction and Demolition Activities, and standard fugitive dust reduction measures are required by the SBCAPCD and for all earthmoving projects. Removal of contaminated soil would be subject to dust control measures per SBCAPCD; these include watering or sprinklers, covering of stockpiles, tarp covering of trucks transporting soils, vehicle speed limits, and other dust control measures that would also minimize the generation of odors. The nearest residential location is 300 feet from the Project Site with the Buffer Zone Area (BZA) between the Project Site and the homes. There are no Project-related activities within the BZA. In addition, Mitigation Measure Haz.1, Contaminated Soil Handling, contains additional dust mitigation requirements. The prohibition of activities in the Marketing Terminal area, as presented in the comment, is contrary to the objectives of the Project.
SA-10	The drainage systems at the Site have been studied and mapped and there is no intent of affecting the existing drainage systems. As detailed in Section 4.8 of the DEIR, Hydrology and Water Resources, the capacity of stormwater drainage systems would not be affected, and no new sources of polluted run-off would be created. Furthermore, because the Project would reduce the amount of impervious surfaces on-site, the Project would not increase on-site or off-site flooding.
SA-11	Noise impacts are proposed to be temporary, one-time events and activities have been distributed to ensure impact avoidance. In addition, mitigation measures have been put in place to reduce impacts to less than significant. Noise barriers, in the form of 8–16-foot-tall K-rail temporary walls with noise blankets, are effective methods of reducing noise impacts on receivers. Noise levels can be reduced by up to 15 dBA with the installation of noise barriers. Prohibiting activities during the night would also reduce the potential for annoyance of area residences. With these measures, noise increases during the peak hour and the potential for annoyance would be substantially reduced.
SA-12	The Main gate would be used for the majority of ingress and egress into the Plant area based on the majority of activities occurring in that area. However, Chevron could continue to access the second gate depending on Project requirements and needs. It is possible that accessing the Site through the second gate would reduce impacts by accelerating the progress of the Project. No added noise impacts to the seals are expected based on noise models presented in Section 4.10, Noise and Vibration. Any impact would be temporary and not significant.

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SA-13	The Project area south of the UPRR is currently used as employee parking and equipment staging in support of the industrial uses of the pier. The Project would continue to access this southern area from Dump Road across the UPRR right-of-way as currently occurs. It is anticipated that traffic volumes at the crossing would be at approximately the same level as currently exist during the demolition and remediation phase compared to current operations. Impacts are discussed under Section 4.11, Transportation and Circulation. The Project is temporary in nature and impacts are expected to be less than significant.
SA-14	As noted in Section 4.13.6 of the DEIR, the Project would not change any access or use of Tar Pits Park or the Carpinteria Bluffs Trail; however, Project activities have the potential for a short-term interruption in trail use. However, the interruption in trail use would be short-term and temporary and would not result in significant adverse impacts related to recreation.
SA-15	Existing conditions are part of the baseline and not part of the proposed Project at this point. The City will check on previous requirements for revegetation and ongoing compliance separate from this environmental review effort. The Applicant submitted a Restoration/Revegetation Plan (see Appendix C-7) as part of the Application to outline the restoration process for the areas identified for equipment demolition and soil removal during the Decommissioning Project.
SA-16	All pipelines slated for decommissioning have been identified, mapped and a protocol for decommissioning has been established in accordance with best industry practices and regulatory requirements. Potential impacts to seals are discussed in the EIR and mitigation measures presented to reduce impacts to seals to less than significant. Impacts to seals will be temporary and are not expected to be significant. Changes to the order of pipeline removal have not been identified as mitigation for any temporary impacts by Biological experts or resource agencies.
SA-17	Please see above under SA-16, all pipelines have been appropriately identified and mapped. Pipelines and their location are extensively described in Section 2.0, Project Description. Figure 2.8 shows the location of pipelines coming to shore. Lines related to the Pier are not slated for abandonment since the Pier will remain and is not part of the proposed Project.
SA-18	A Tree Maintenance and Hazard Reduction Plan (Plan) was prepared to support a significant tree maintenance activity for the elimination of safety hazards at the Carpinteria Oil and Gas Processing Facility. Recent storms during the 2022-2023 winter season resulted in significant tree instability and several tree failures (a total of 12 trees) at the Project Site or falling onto the Project Site from adjacent land, with targets being subject to hazardous conditions, including high voltage transmission lines, buildings, pedestrians, and vehicles. As a result, Chevron elected to have the trees evaluated for risk of failure and determine proper mitigation measures to reduce or eliminate hazardous conditions. This evaluation was conducted by an International Society of Arboriculture (ISA) Certified Arborist and Certified Tree Care Professional (Branch Out Tree Care). A total of approximately 608 trees were evaluated throughout 12 areas within the Project Site to identify the needs for maintenance. The evaluation identified that in some instances, the cause of recent tree failures and potential additional failures was high soil saturation in conjunction with structural weakness caused by fungal root decay. This activity was not considered part of the Project as it needed to occur on a timely basis to prevent any damage. The maintenance activities were conducted prior to the preparation of the EIR and are not considered part of the Project. The Project does encompass some tree removal as part of the decommissioning activities and those are discussed and analyzed in Section 4.3, Biological Resources (please see Impact Bio.5).
SA-19	Equipment previously removed is not part of the proposed Project and not analyzed under this environmental review. Additional Site assessment will be conducted by Chevron once all above ground facilities have been removed under the direction of the County's Environmental Health Services and the EPA.
SA-20	The Sandblast area was previously remediated, and the applicant obtained case closure from the Regional Water Quality Control Board. No additional work is slated to occur in this area other than incidental excavation that might be necessary to remove pipelines crossing through that area.
SA-21	The wells onsite are not currently part of the Project and there is no regulatory requirement to plug and abandon those wells at this time. The EIR includes a Full Removal Alternative that contemplates the plugging and abandonment of all the wells onsite along with other facilities not currently slated for decommissioning. Please see responses to DA-1 and SA-1 above.

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SA-22	Mitigation measures are included in the EIR for protection of the seals during any work that could affect them during any phase of the Project. The mitigation measure (Bio.1g, Harbor Seal Rookery Monitoring and Protection) did not identify the need for two seal monitors. However, and as specified in Appendix C-6, Harbor Seal Monitoring and Protection Plan, in addition to the County monitor, Chevron will provide that a marine wildlife monitor will be present at all times during required work activities, including activities scheduled outside of pupping season (June 1 through November 30), until the surf zone and bluff pipeline removal has been completed and all equipment/personnel have left the area.
SA-23	Installation of the barrier is a necessary portion of the mitigation to protect seals and would cause temporary noise in order to prevent longer lasting impacts during the decommissioning activities. However, these impacts will be temporary in nature and considered less than significant.
SA-24	Existing conditions on the Pier are part of the baseline and not part of the proposed Project.
SA-25	Additional parking for seal watchers has not been identified as a mitigation measure for the Project. There is no nexus to provide additional parking as mitigation based on the nature and level of the impact. The Project is temporary, and mitigation measures are included to ensure minimal impacts to the seals and ongoing monitoring by a City-approved qualified Biologist.
SA-26	The area mentioned in the comment has long been used for offshore support activities and thus the use of this area is part of the baseline. Additional temporary work in that area would be short-term and consistent with the existing use, and not have significant impacts.
SA-27	The language in the EIR has been clarified to reflect that the harbor seal rookery is less populated by seals in the summer and fall, when there is seasonal public access and beach activities, consistent with the comment.
SA-28	No grading is proposed on the beach other than the excavations necessary to remove the pipelines in the area. No substantive regrading is expected to be necessary as part of the proposed Project.
SA-29	There is no vibration levels expected in the beach area that would affect the seal rookery. Vibration impacts are discussed under Impact N-3 as part of the Noise and Vibration Section 4.10.
SA-30	Impacts to the seal rookery are considered temporary and mitigation measures are included in the EIR to ensure that impacts will be mitigated to less than significant. Please see responses to DA-1 and DA-7 above, among others.
<b>Frank Arredondo, Chumash MLD</b>	
FA-1	The comment regards potentially sensitive information that was originally included in the DEIR. In an abundance of caution, the City edited the Cultural Resources Section to remove any potentially sensitive material in accordance with the comment and the DEIR was reposted with the State Clearinghouse and on the City's website.
<b>Valerie Bentz</b>	
VB-1	Impacts to the seals and to the Seal Rookery are analyzed in the EIR. Impacts were found to be significant and mitigable. As a result, mitigation measures have been included in the EIR to ensure that all impacts to the seals are adequately mitigated. Please see responses to DA-1 and DA-7 above, among others.
<b>California Coastal Commission</b>	
CCC-1	<p>Chevron has been working with the City of Carpinteria and understands that the City intends to issue a Coastal Development Permit (CDP) for all activities located above the high tide line. Chevron will be submitting a separate CDP application to the California Coastal Commission for Project-related activities occurring below the high tide line and within State Waters.</p> <p>Sales Gas facilities that exist in or near the property are the responsibility of SoCalGas, who is undertaking a separate permitting process to remove their facilities. Similarly, the Habitat pipeline and power cable from Hogan and Houchin are not the property of Chevron and are not Chevron's responsibility and will have to be assessed and abandoned under a different responsible party and permitting process. There are no activities proposed at the former Burn Dump site. The County of Santa Barbara Environmental Health Services (SBEHS), the local enforcement agency for evaluating and remediating burn dump sites, identifies the former burn dump site as Site</p>



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	<p># 742, Carpinteria City Dump, Dump Road, Carpinteria. The County of Santa Barbara retains financial responsibility for the management and regulatory compliance of the former Carpinteria Burn Dump.</p> <p>The City acknowledges the comment on the tar seeps in that they are naturally occurring and that leaving them in place would not constitute an impact under CEQA and would not be considered inconsistent with the Coastal Act. The discussion of the Full Removal Alternative has been amended in the Final EIR in response to this comment.</p> <p>The Full Removal Alternative was carried forward in the Alternatives analysis and its impacts were discussed in Section 5.0 of the EIR. CEQA does not require the impacts of alternatives to be analyzed to the same level of detail as the proposed Project. However, removal of pipelines offshore and through the bluff is a component of the proposed Project and their impacts are analyzed throughout the document in the pertinent issue areas. Impacts and mitigation measures for the removal of the Hilda and Hazel pipeline will have similar impacts and will require similar mitigation measures as the other pipelines slated for removal as part of the Project. Additional information has been added to the Alternatives discussion in response to this comment.</p>
CCC-2	<p>The Coastal Act definition of environmentally sensitive area has been added to Section 4.3. The following has also been added to the EIR: "Section 30107.5 of the Coastal Act is also incorporated into the City's Coastal Area Plan (CAP), which states the ESHA overlay designations reflected on the land use plan and resource maps are representative of the general location of known habitat. It also states the designations in the land use plan are not definitive and all of the resource areas in the community may not be known and acknowledges discontinuous pockets of ESHA are proposed for the same protection as larger contiguous sections of habitat area. Therefore, designations on the land use plan and resource maps are to be supplemented with subsequent program and Project level resource study and mapping (City of Carpinteria 2003)." In other words, areas identified during surveys that exhibit the conditions for the definition of ESHA should receive the same protection as mapped ESHA, which is reflected in the EIR.</p> <p>Impact Bio.2 clearly identifies potential impacts to ESHA and considers those impacts to be significant and mitigable. It should be noted that the Project Site has long been utilized as an industrial site and that the Project would result in restoration and revegetation of the Project Site.</p>
CCC-3	<p>All proposed work areas are provided in Figures 2-2 (Facility Overview) and 2-7 (Onshore Facility Equipment Removal Areas) of the EIR. All Project related impacts (mobilization, staging, stockpiling, decommissioning activities) will occur within the defined Project Disturbance Area depicted in these figures. Section 2.1, Project Overview, of the Draft EIR states, "remediation efforts will be performed along with preservation of existing site resources, including mature trees and bluffs..." Figures depicting an overlay of Project activities with protective buffers for ESHA and other sensitive resources will be provided in an agency-approved Remedial Action Plan (RAP). Mitigation measure Bio.2a, also require the avoidance of impacts to ESHA areas. Areas that support ESHA or other Sensitive Natural Communities shall be marked on Project plans and identified on the ground using construction fencing, or other means, to identify them as exclusion zones to all personnel and equipment (mitigation measure Bio.1d). With regards to potential impacts to wetlands, the Applicant is proposing to replace wetland at a 4:1 ratio. Pipeline removal from the bluff is not expected to have significant and unavoidable impacts after mitigation measures are imposed. With impacts less than significant no other alternatives were needed to be reviewed.</p>
CCC-4	<p>The reference to "future land use designations" was removed from the description of the Preliminary Habitat Restoration/Revegetation Plan from Section 4.3.4 of the EIR. The following statement was added. "The goal of the Habitat Restoration/Revegetation Plan is to restore areas disturbed by the Project in a manner that would replace/mitigate impacts to natural areas directly or indirectly affected by Project activities and to avoid potential future impacts associated with the removal of facilities or other surface features by revegetating areas left bare or that currently support non-native vegetation with native vegetation or other appropriate ground cover".</p>
CCC-5	<p>Prior tree maintenance activities were conducted under separate approvals and had separate purposes and utility since they were to resolve existing safety hazards and were not part of or necessary to remediation activities. Therefore, those activities are not part of the scope of this Project or EIR. The prior tree maintenance activities</p>

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	<p>were performed according to a Tree Maintenance and Hazard Reduction Plan that was developed to address critical human safety issues (mitigating tree hazards evidenced by multiple tree failures) to support ongoing management of the Property. Separate from the EIR preparation, City Planning staff thoroughly reviewed and commented on the Tree Maintenance and Hazard Reduction Plan submitted by Chevron to verify compliance with the City's General Plan and Local Coastal Plan Objectives and Guidelines, as there were significant public and workforce safety hazards associated with the tree instability documented at the Site.</p>
CCC-6	<p>The removal of Tank 861 would result in the permanent loss of 0.17 acre of coastal wetland, which is artificially created due to water collecting within the tank containment berm, with the proposed mitigation of designing final grading of the Site to increase runoff into Drainage #4, and other actions, to improve Drainage #4. A pipeline removal will also result in temporary impacts to 0.1 acre of a coastal wetland, with the expected outcome that the wetland vegetation will restore naturally within a short period of time. Mitigation measure Bio.3c, Wetlands Mitigation and Monitoring Plan, has been edited to correctly state the impacts, and the mitigation requirements have been changed from 1:1 to 4:1, as follows:</p> <p>"Coastal Wetlands Mitigation and Monitoring Plan. A Coastal Wetlands Mitigation and Monitoring Plan shall be prepared by the Applicant and approved by the City and other resource agencies, as applicable, and fully implemented within 120 days of the completion of soil remediation and shall include the following:</p> <ol style="list-style-type: none"> <li>1. The permanent loss of 0.17 acre associated with Wetland W-1 shall be replaced on a minimum 4:1 basis by the Applicant-proposed expansion of existing wetlands in the Drainage No. 4 Area.</li> <li>2. The temporary loss of 0.127 acre within W-5 shall be mitigated at a minimum 4:1 ratio that shall include periodic monitoring to ensure the wetland naturally revegetates to pre-disturbance conditions, identification of contingency measure should natural revegetation not proceed as expected, as well as establishment or enhancement of wetland habitat elsewhere on the Project Site." <p>Mitigation also requires the applicant to submit appropriate permit applications, or provide the City with letters indicating permits are not necessary, and submittal of the Coastal Wetlands Mitigation and Monitoring Plan. Alterations or exceptions to the mitigation requirements would be determined through the permit process.</p> </li></ol>
CCC-7	<p>To install pig launching and receiving stations, minor jetting (seafloor) or excavations (onshore) may be required to expose the pipelines and allow divers/workers to access the pipeline segments. Such excavations will likely be less than a few feet due to the seasonal movement of sand/sediment.</p> <p>As previously noted, all pipelines were previously flushed, or pigged and flushed, prior to idling. It is unclear if any of the pipelines will require additional pigging and flushing prior to removal. However, crews will be prepared to implement such procedures should conditions warrant. No onsite or offshore disposal will occur; therefore, no environmental impacts are anticipated. Flushing operations will be designed to contain and capture recovered fluids, which will then be properly disposed of offsite at approved disposal facilities. It is impossible to estimate the amount of pipeline or flush water that will be required at this time. Implementation of EIR Mitigation Measure Haz.2a (Spill Response Planning) will further reduce the potential for impacts from any fluid contained in the pipelines.</p>
CCC-8	<p>The former marine terminal pipelines include a 10-inch diameter Marketing Terminal Offloading Line, as well as two (2) 4-inch diameter subdrain pipelines and one (1) 6-inch diameter wastewater pipeline. In addition, a 20-inch diameter crude oil loading line, 6-inch diameter wastewater line, and 8-inch diameter wastewater line are located further east of the Marketing Terminal Offloading Line. Records show that these pipelines were flushed, pigged, and placed out of service in 1984. As outlined in the Project Application Package, a visual inspection of these pipelines in the Spring of 2019, when winter storms resulted in the exposure of these pipelines across the surf zone, indicated that these lines had been damaged. Based on these observations, the damaged areas appear to</p>

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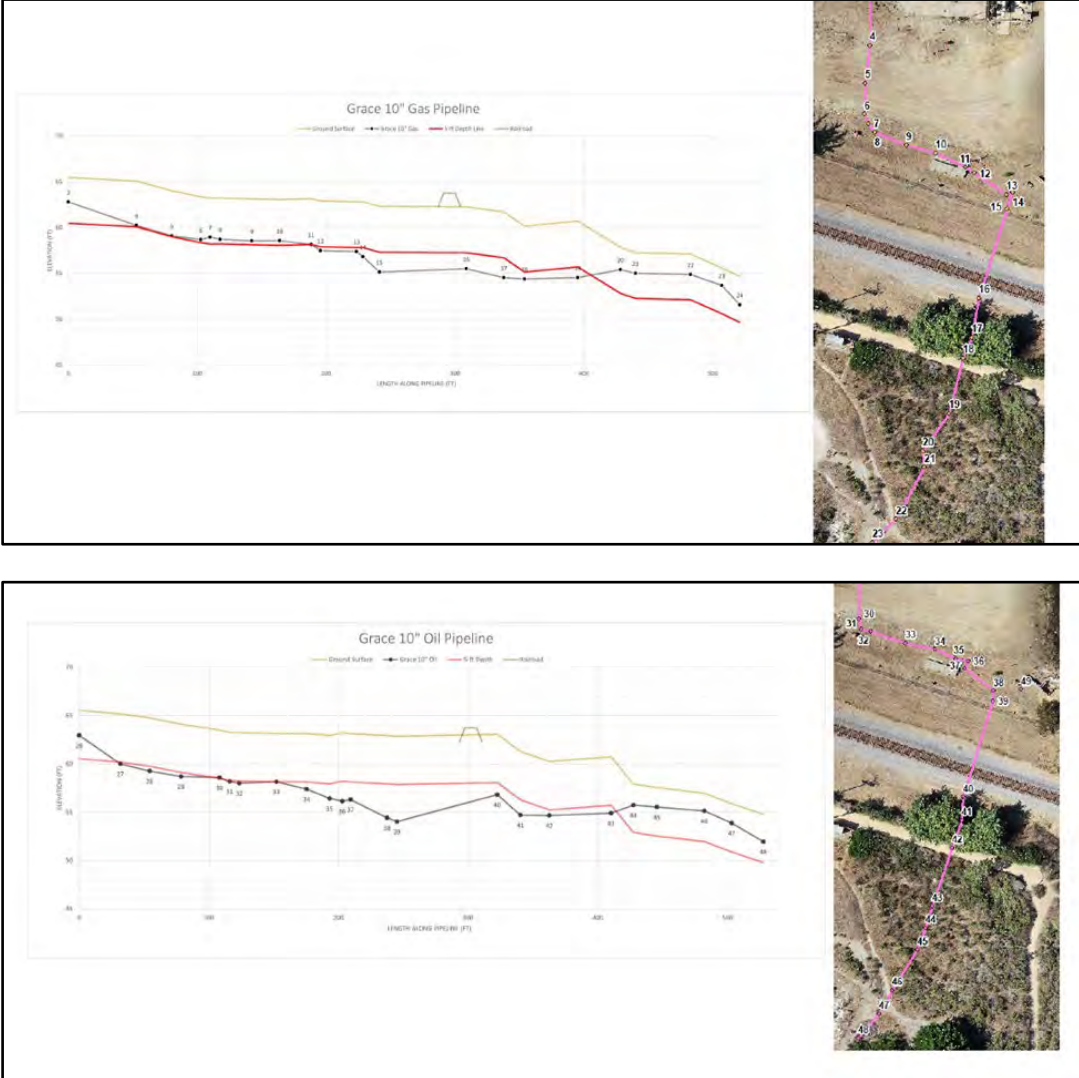
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	<p>have been the result of external impacts, not internal rupture of these lines. No releases have been observed from these damaged areas, and sand appears to be filling the interior of portions of these pipelines.</p> <p>Removal of these pipelines is proposed as part of the proposed Project, the potential impacts of which are thoroughly addressed in the Project Application and EIR analysis.</p>
CCC-9	<p>The Peninsula Area Pipelines (PAP) are part of a sale gas facility owned and operated by SoCalGas, are not within the scope of the proposed Project, and are not within the authority or responsibility of the Project proponent. Decommissioning these facilities is, therefore, SoCalGas' responsibility and not that of Chevron. The assessment of potential impacts from the future demolition of these facilities is dependent on the methodologies selected by SoCalGas and cannot be assessed at this time. Therefore, any assessment of potential impacts would be unrelated to the Project and would be speculative and, therefore, have not been included in the analysis.</p> <p>As outlined in Chevron's Project Application, the Former Sandblast Area (FSBA) contains a series of shallow subsurface pipelines and power utility lines that service current pier and parking lot operations. The pier and associated parking lot are not part of this proposed decommissioning Project and will remain operational. The pipelines and utility lines that service the pier will remain in service and not be removed through the FSBA.</p> <p>The Gail and Grace Pipeline Bundle/10-inch oil pipeline also traverses the FSBA. As outlined in the Chevron Project Application, the pipeline segments located across the Former Sand Blast Area and leading into the Onshore Facility will be abandoned in place, except for the portion located beneath the UPRR ROW, which will be removed. These lines will be abandoned in place due to their burial depth, the resulting large removal excavation if removed, avoidance of disturbance to existing restoration areas, and avoidance of impacts to the public trail that runs parallel to the ROW.</p> <p>The following diagrams were provided in Appendix K of the Chevron Project Application, which provides the depth of burial data for the pipelines as they cross the parcels located south of the UPRR ROW. As depicted in these diagrams, the pipelines are buried over 5 feet deep as they cross the FSBA. Based on past experience, pipelines buried at this depth do not become exposed. Due to the current ESA designation, this area is unlikely to be proposed for future development, further reducing the potential of these pipelines becoming a concern. Excavation of pipelines greater than 5 feet will require significant ground disturbance to safely expose the pipelines</p>

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	<p>and allow access to cut and remove the segments. The use of trench boxes can reduce the surface extent of the excavations but will still increase the disturbance footprint and potential impacts to the public recreational use.</p> <div>  <p>The response includes two line graphs and two aerial photographs. The top graph, titled 'Grace 10" Gas Pipeline', plots Elevation (FT) on the y-axis (60 to 100) against Length Along Right-of-Way (FT) on the x-axis (0 to 500). It shows four data series: Ground Surface (yellow line), Grace 10" Gas (black line with dots), 1-ft Depth Line (red line), and Railroad (grey line). The bottom graph, titled 'Grace 10" Oil Pipeline', plots Elevation (FT) on the y-axis (40 to 80) against Length Along Right-of-Way (FT) on the x-axis (0 to 500). It shows the same four data series. To the right of each graph is an aerial photograph showing the pipeline's location. The top photo shows the gas pipeline route with points 1 through 23 marked. The bottom photo shows the oil pipeline route with points 24 through 48 marked. Both photos show the pipeline running parallel to a road and a railroad track, with a beach bluff area nearby.</p> </div> <p>It should also be clarified that portions of these pipelines will be removed as part of the Project as they transition up the beach bluff and across the adjacent bluff area. This removal will be completed using standard excavation methods. Once the pipeline is removed, the Site will be restored to its previous contours and revegetated in accordance with the Revegetation Plan.</p>
CCC-10	<p>Reduction of the time used for the Project offshore is an appropriate strategy to reduce the potential for oil spills in the marine environment. The longer a Project extends offshore the more likelihood of spills or other mishaps. Ensure proper planning as and logistics are sound ways of helping to mitigate the risks of an oil spill as described in Mitigation Measure HAZ.2a. Additional information on spill reductions will be included in the Project specific Oil Spill Response and Contingency Plan. Mitigation Measure Bio.7 Oil Spill Contingency Plan also contains a number of requirements to ensure that potential oil spill impacts are mitigated to the highest extent possible.</p>

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CCC-11	Information on the use of the coastal trail located adjacent to the railroad right of way is not available at this time. However, based on the Project Description and the timing of the various activities, it is not expected that impacts to the trails will occur regardless of level of current use. It is not anticipated that the closure of the trails through the Site will be required. The majority of the pipelines crossing the coastal bluff top and railroad right of way are buried greater than five feet below the existing surface topography. Due to this depth of burial, the applicant has proposed abandonment in place once the pipeline reaches five feet of burial to avoid impacts on native vegetation or disruption to surface facilities, including the existing trail. The applicant has indicated that should short-term closures of the coastal trail be required during Project activities, an alternative pathway will be provided. Such pathways are available throughout the bluff area and within the parking lots located seaward of the railroad right of way. As an additional mitigation measure, the applicant shall prepare a Coastal Trail Access Plan and submit the plan for approval by the City prior to any planned closure of the trail during Project related activities.
CCC-12	As stated in the comment, the underlying purpose of the Project is to remediate the environmental impacts of the legacy oil and gas facilities on the Project Site. More specifically, the Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of any impacted soils connected to activities from the Onshore Facility to accommodate the Site's potential future redevelopment. A Remedial Action Plan is under preparation under the responsible regulatory agencies, the SBCEHS, RWOCB, and U.S. EPA. Those agencies will determine to what levels remediation will occur with the intent of having the highest possible land use as part of the future of the Site. The unrestricted land use cleanup goals were selected not as a future land use target, but because they represent the maximum potential Project related impacts with regard to soil generation, truck traffic, emissions, etc. The actual cleanup goals will be determined by regulatory agencies with authority to approve the cleanup activities and standards.
<b>California Department of Conservation, Geologic Energy Management Division</b>	
CalGEM-1	The letter from CalGEM is not specific to the Draft EIR or any of its contents; however, it discusses the regulatory requirements for plugging and abandoning wells in a property and concludes that there are currently no regulatory requirements that compel Chevron to plug and abandon the orphan wells in their property at this point. This information has been used to edit the Alternatives analysis.
CalGEM-2	The comment requiring that present and future property owners are aware of (a) the existence of all wells located on the property, and (b) potentially significant issues associated with any improvements near oil or gas wells, and that the information be communicated to the appropriate county recorder for inclusion in the title information of the subject real property are noted.
CalGEM-3	The comment recommends that any soil containing hydrocarbons be disposed of in accordance with local, state, and federal law. The property is currently being reviewed by the County EHS and the EPA and a Remedial Action Plan is under preparation to ensure that the Site is properly remediated in accordance with the law.
<b>California Department of Fish and Wildlife</b>	
CDFW-1	Recommended edits to Mitigation Measure Bio.7 have been incorporated into the DEIR.
CDFW-2	Recommended edits to Mitigation Measure Bio1c.4 and Mitigation Measure Bio.2c have been incorporated into the DEIR. Note: It is our understanding that the National Marine Fisheries Service (NMFS) is now the National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries).
CDFW-3	The following addresses statements in CDFW Comment #3: Impacts to Monarch Butterfly Overwintering Habitat:  The 60 trees proposed for removal are at least 600 feet east or southeast of known monarch aggregation areas. These trees are located downwind of the aggregation areas, with prevailing winds predominantly originating from the north and west along the Carpinteria coast. Wind protection or other microclimatic effects by these trees for known monarch roosts is considered negligible due to the significant distance and downwind location. Encroachment of other trees at the Facility that are within closer proximity to the monarch roost trees will be performed using methods that limit damage to the root zones of these trees, and any portions of the Project Site requiring remedial excavation within the Facility will be backfilled, including beneath the canopy of trees requiring re-covering of their root zones.



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	<p>All encroachment or other tree impacts are congruous with Marcum, S., &amp; Darst, C. (2021), Western Monarch Butterfly Conservation Recommendations, which states: "Avoid the removal of trees or shrubs within 1/2 mile of overwintering groves, <u>except</u> for specific grove management purposes, and/or for human health and safety concerns." This exception is an important component of the Project to protect human health and safety, as Section 4.7 of the Draft EIR states, "As the cleanup of the Site is part of this Project, the resulting cleanup would ensure impacts are removed, and any future impact of either contaminated soils, or potential spills from remaining inventories would be eliminated."</p> <p>The prior tree maintenance activities performed according to the Tree Maintenance and Hazard Reduction Plan were conducted based on an important human health and safety need (mitigating tree hazards evidenced by multiple tree failures). Tree maintenance activities were wholly separate from the Project with independent purpose and utility and are not addressed by or part of the scope of the Project or EIR. Separate from the EIR preparation, City Planning staff thoroughly reviewed and commented on the Tree Maintenance and Hazard Reduction Plan submitted by Chevron to verify compliance with the City's General Plan and Local Coastal Plan Objectives and Guidelines while recognizing that protection of human health was necessary, as there were significant public and workforce safety hazards associated with the tree instability documented at the Site. Implementation of the tree maintenance activities were congruous with Marcum, S., &amp; Darst, C. (2021), Western Monarch Butterfly Conservation Recommendations, which states: "Avoid the removal of trees or shrubs within 1/2 mile of overwintering groves, <u>except</u> for specific grove management purposes, and/or for human health and safety concerns".</p> <p>Regarding the reduction of Project-related impacts to trees that may provide monarch butterfly overwintering habitat, the Draft EIR proposes to implement mitigation measure Bio.1c, Pre-construction Wildlife Surveys, which includes preparation of a Monarch Management Plan prior to any construction activities. This plan will identify all known monarch butterfly roosts for their protection to the fullest extent feasible, including "suitable setbacks from the edge of the groves to preserve habitat quality." Mitigation Measure Bio.1c has been substantially amended in response to the comment and now includes Monarch Butterfly Habitat Assessment, Monarch Butterfly Management Plan, and Monarch butterfly Take Avoidance, as suggested.</p> <p>In addition, mitigation measure Bio.1d, Fencing, will be implemented, and states, "To minimize the amount of disturbance to wildlife habitat and important or sensitive biological resources, construction boundaries will be fenced with highly visibly fence and staked...The City-approved qualified biological monitor shall ensure environmentally sensitive areas within or near the construction zones are clearly marked for avoidance in the field. These areas include, but are not limited to, occurrences of special-status plants, trees to be avoided, sensitive vegetation communities or wildlife species adjacent to work areas, and jurisdictional resources." Implementation of these mitigation measures are intended to eliminate the potential loss of monarch butterfly overwintering habitat.</p> <p>According to Xerces staff, the survey location of Western Monarch Overwintering Site ID# 2800 is limited to the Dump Road/Gate 1 area and the south end of the Former Nursery Area, from outside of any private property and safety boundary fencing and does not include field survey data from the Buffer Zone. However, the mapped boundary of Site ID#2800 on the Xerces' Interactive Mapper includes the Buffer Zone, indicating the entire overwintering site is much larger than just the Dump Road/Gate 1 area. The Buffer Zone, which was avoided during the recent tree maintenance activities, is also known to support at least 5,000 monarchs (Padre Associates records in 2012), with recent observations totaling 1,025 monarchs (Padre Associates records in December 2023) and is significantly more sheltered than the Dump Road/Gate 1 area. In addition, the 8,000-monarch butterfly estimate is from 1997, or 27 years ago, and since then, variability at that location has ranged from 0 to 5,990 monarchs. Nonetheless, all known monarch roosts at the Project Site, including at Dump Road/Gate 1, are being recognized in the EIR as warranting protection regardless of the variability between years. The recent sightings of aggregating monarchs in December 2023 in the Buffer Zone indicate that continued use of the overall Site as an overwintering site (i.e., mapped boundary of Site ID# 2800) was not precluded. All available information will</p>

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	be used for the full implementation of mitigation for the Project. These data will also support and be incorporated into the development of the required Monarch Management Plan for the protection of all known monarch roosts upon implementation of the Project.
CDFW-4	With regard to Drainage Area #4, based on current soil assessment data, no Project-related activities have been proposed within Drainage Area 4. However, excavation within the adjacent Former Marketing Terminal is proposed to address residual shallow contamination. These excavations will likely have short-term impacts on a minor, concrete-lined drainage channel, which extends across the southern portion of the Former Marketing Terminal. Although final grading and restoration plans have not been prepared, it is expected that the surface drainage features will be restored as part of the Habitat Restoration/Revegetation Plan (EIR Mitigation Measure Bio 1b), resulting in no material change to water movement across the Site, therefore drainage-related impacts to biological resources within Drainage Area #4 are not anticipated. However, should Project planning indicate Project activities would encroach on this feature, or identify the potential for indirect effects, then Mitigation Measures described under Bio.3 pertaining to jurisdictional waters of the state and coastal wetlands would apply.
CDFW-5	Based on the Project Site drainage, the proposed work areas will not impact any areas meeting the definition of a regulated stream. The Project would not result in potential impacts to defined lake or streambeds. A small patch of willows occurs within the Drainage No. 4 area, but is not considered riparian habitat, and nonetheless, would not be affected by the proposed decommissioning or remediation activities. The Project would not include any activities in proximity to an ephemeral stream or its associated vegetation. Finally, and as an additional measure, prior to the start of work, a Remedial Action Plan (RAP) will be prepared to detail the specific methodology used to complete the Project. Once the RAP is finalized, all drainage features potentially affected by the Project will be reassessed to confirm that impacts avoid areas meeting the definition of a regulated stream. If regulated streams are impacted, the Project Applicant will be required to apply for an LSA Agreement from CDFW prior to the start of work. This is consistent with mitigation measure Bio.3a (Permit Compliance with USACE, RWQCB, and CDFW Requirements). In addition, any vegetation impacts will be addressed as part of the Habitat Restoration/Revegetation Plan (EIR Mitigation Measure Bio 1b).
CDFW-6	<p>Mitigation Measures Impact Bio 1.c includes the requirement for preparation of a Final Habitat Restoration/Revegetation Plan, which includes the following, among other requirements:</p> <ul style="list-style-type: none"> <li>• A minimum, a 1:1 mitigation ratio required to restore areas temporarily disturbed to pre-construction conditions and replace habitats permanently affected by the Project (final mitigation ratio will be determined during Project permit and approval process).</li> <li>• Description and map of location of restoration/revegetation and compensatory mitigation sites and assessment of appropriate reference areas to help guide restoration and mitigation efforts.</li> <li>• And identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation Site in perpetuity,</li> </ul> <p>These measures also apply to Impact Bio.2, which states that impacts to sensitive biological habitats will be included in the Final Habitat Restoration/Revegetation Plan. The Final Restoration/Revegetation Plan must be reviewed and approved by the City and agencies prior to Project approval.</p> <p>Section 5 of the Revegetation/Restoration Plan provides a monitoring plan that establishes success criteria and duration of monitoring. The focus of these restoration efforts is the replacement of non-native vegetation or existing developed areas with native vegetation within the Project Site, thereby avoiding the need for offsite mitigation or compensatory measures (40 CFR Part 230 Subpart J and 33 CFR Part 332). All potential impacts are considered temporary, and there will be no net loss of biological resources associated with the Project. The final restoration of the Site following the completion of the Project is also dependent on future land use decisions by the City of Carpinteria.</p> <p>The Mitigation Measures in the EIR include the requirement for agency approval through permits (EIR Mitigation Measure Bio 3a) and finalization of the Revegetation/Restoration Plan (EIR Mitigation Measure 1a). All proposed</p>

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	revegetation and Site restoration will be completed onsite, thereby avoiding the need for additional compensatory mitigation.
<b>California Public Utilities Commission</b>	
CPUC-1	The Union Pacific Railroad (UPRR) easement bisects the southern portion of the Project Site from the north to south. This railroad crossing is used regularly to access the pier and the parking lot south of the railroad tracks. This use will continue as part of the proposed Project at approximately the same levels as has occurred in the past.
<b>Carpinteria Sanitary District</b>	
CSD-1	The comment about the requirement for permits for discharge from the Sanitary District is acknowledged. The Applicant is aware of the requirements. No specific comment is provided on the Draft EIR, and no additional response is warranted.
CSD-2	The proposed Project will result in the removal of several buildings on the Project Site that are serviced by private sewer pipelines. These pipelines will be removed as part of the Project.  All public utilities, including sewer lines, will be identified and marked in the field and on Project plans prior to the start of work. The proposed operations are not anticipated to disrupt public sanitary service, and all public pipelines will remain in place at the completion of the Project. The future disposition of public pipelines and utilities is outside the scope of this Project.
<b>Carpinteria Valley Association</b>	
CVA-1	The Final EIR has been corrected to reflect the fact that during the summer/fall months, when beach activities are permitted in the area, there is a substantial decrease in the number of seals in the area. This is a more apt description of the seals population that "largely abandoned".
CVA-2	The language in the Final EIR has been amended in response to the comment. The section in question under Impact Bio.1 now reads: <i>"As stated in the Project Description, surf zone pipeline removal operations would be scheduled to avoid the most sensitive periods (December 1 through May 31) when the haul-out area is in use by harbor seals. The harbor seal rookery is less populated by seals in the summer and fall, when there is seasonal public access and beach activities, which will correspond to when the proposed beach and offshore Project activities will occur; therefore, Project activities associated with pipeline removal are not expected to cause incidental harassment of Pacific Harbor Seal. However, decommissioning and remediation work conducted in adjacent areas when harbor seals are present may result in disturbance of this rookery, resulting in a potentially significant impact to this species."</i>
CVA-3	Although the language about the presence of the seals during the summer and Fall months has been clarified, impacts remain the same as stated in the Draft EIR and are considered less than significant with mitigation. Impacts are expected to occur temporarily during decommissioning activities on the beach and are expected to be minimized with the mitigation measures in place.
CVA-4	The proposed additional activities under the Full Removal Alternative are not expected to affect the seals beyond those impacts identified under the proposed Project. None of the activities under the alternative will be occurring on the beach, with the exception of the removal of the Hazel and Heidi pipeline bundles. However, those pipelines are located further to the west of the pier and away from the seal rookery, so the impacts will be similar to those of the proposed Project and equally mitigable with the proposed mitigation measures in the EIR.
<b>Carpinteria Valley Water District</b>	
CVWD-1	The comment has been passed on to the Applicant to review and ensure that the proposed Project will have no effect on the District's water line. No additional comment is provided on the Draft EIR and no additional response is merited.
<b>Chevron West Coast Decommissioning Program</b>	
ES-1	The Final EIR has been edited to correct the oversight in the Introduction and consistent with the Project Description and the Executive Summary.
ES-2	The discussion of the Full Removal Alternative in the Final EIR has been amended to reflect the position of the California Coastal Commission regarding the seeps, and the position of CalGEM regarding the wells. In both

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	cases, the regulating agencies do not assert any regulatory requirements to either remedy the seeps or plug and abandon the existing wells at this point.
ES-3	Please see the response to ES-2 above.
ES-4	The Full Removal Alternative is consistent with the objectives of the Project in that it includes removal or remediation of additional existing materials or facilities within the Project Site. However, and as noted under ES-2 above, the discussion on the viability of dealing with the wells and the seeps has been amended in the Final EIR in response to comments from the California Coastal Commission and CalGEM.
ES-5	The discussion of requirements to plug and abandon the legacy wells has been expanded in the Final EIR in response to comments made by CalGEM on the wells and consistent with this comment. CalGEM has stated that there is no regulatory requirement to plug and abandon the legacy wells at this time, and that Chevron is not required to conduct the abandonment.
ES-6	In response to the Coastal Commission comments on the seeps, the Full Removal Alternative in the Final EIR has been amended to explain that there is no regulatory requirement to remediate naturally occurring seeps.
ES-7	The environmental impacts associated with the Full Removal Alternative are qualitatively analyzed in Chapter 5.0, Alternatives and compared to the impacts of the proposed Project and the No Project Alternative. In the comparison of impacts, the discussion acknowledges that there would be a small increase in various impacts including Air Quality, GHG, Noise and Vibration, and Transportation under the Full Removal Alternative. However, those impacts are considered significant and mitigable under the proposed Project and the Full Removal Alternative. As noted above, the Alternatives Section was revised in response to this comment and comments from CalGEM and the California Coastal Commission, and it was determined that the Proposed Project Plus Hilda and Hazel Removal Alternative is the Environmentally Superior Alternative.
ES-8	As stated above, all of the facilities slated to be removed as part of the proposed Project are part of the baseline since they are all existing facilities slated for decommissioning. Removal of Hazel and Hilda pipelines bundle will have a potential short-term impact on the bluffs, but it is also likely to have a long-term beneficial effect on bluff stability since it would remove a path for future erosion and prevent added bluff retreat. It also would prevent the pipelines from becoming daylighted on the beach and becoming beach hazards in the future. Impacts from pipeline removal are likely to be similar to the other pipeline bundles proposed to be removed by Chevron under the Project.
ES-9	As stated above, the Full Removal Alternative is likely to have a small increase in impacts in Air Quality, GHG, Noise and Vibration, and Transportation. However, those impacts are considered significant and mitigable under the proposed Project and the Full Removal Alternative. As noted above, the Alternatives section was revised in response to this comment and comments from CalGEM and the California Coastal Commission, and it was determined that the Proposed Project Plus Hilda and Hazel Removal Alternative is the Environmentally Superior Alternative.
ES-10	The CEQA Public Resources Code Section referenced, § 21082.4 states "In describing and evaluating a project in an environmental review document prepared pursuant to this division, the lead agency may consider specific economic, legal, social, technological, or other benefits, including regionwide or statewide environmental benefits, of a proposed project and the negative impacts of denying the project. Any benefits or negative impacts considered pursuant to this section shall be based on substantial evidence in light of the whole record." While the Project overall will be beneficial because it will improve overall environmental conditions at the Site, the Project is designed to remedy an existing adverse condition and properly decommission a Site previously polluted or dilapidated from lack of use. As noted in the comment, and as detailed in the discussion on the No Project Alternative, the proposed Project will be beneficial overall, and not carrying it forward would result in ongoing potential impacts to the environment.
ES-11	As detailed above, the wells along with all other legacy oil and gas facilities are part of the existing baseline. The EIR describes accurately both existing facilities proposed for decommissioning and facilities that are not proposed to be decommissioned that are within the overall Project Site and under the same ownership. The proposed Project does not include addressing the legacy and wells and as such it could result in impacts to the environment that could occur from aging, improperly abandoned wells leaking in the future. The EIR accurately describes the potential impacts in the alternatives analysis.

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ES-12	As discussed above, the Full Removal Alternative has been amended to reflect the position of the California Coastal Commission regarding the seeps, and the position of CalGEM regarding the wells. In both cases, the regulating agencies do not assert any regulatory requirements to either remedy the seeps or plug and abandon the existing wells at this point. Additionally, in response to these comments, the EIR was revised to include an additional alternative that includes the Proposed Project as well as decommissioning of portions of the Hazel and Hilda pipelines—the components of the Full Removal Alternative that were deemed feasible. Ultimately, this newly proposed alternative was selected as the Environmentally Superior Alternative.
I-1	The sentence has been amended in response to the comment.
PD-1	The Table has been amended to reflect schedule changes. It is recognized that the schedule is likely to change based on potential delays in permitting and environmental review.
PD-2	CalGEM has provided a letter to the City regarding the legacy wells and the EIR has been amended to reflect that there are no existing regulatory requirements for Chevron to address the legacy wells at this time.
AQ-1	The table has been edited in response to the comment.
AQ-2	Both Tables 4.2.5 and 4.2.6 present total and annual emissions compared to the thresholds. The thresholds are defined in terms of annual emissions, but as both the total and the annual emissions are below the thresholds, both are presented. This allows for considerations in case the Project schedule changes during implementation, that it would still be below the thresholds. Additional text has been added to clarify the two numbers.
BR-1	The Final EIR has been edited as noted in the comment.
BR-2	The Final EIR no longer contains the paragraph in question.
BR-3	Table indicated potential for species to occur. All birds indicate no breeding or nesting habitat present. No changes to the Final EIR are necessary.
BR-4	The citation is erroneous as detailed in the comment. The revised citation is from page 1-39 from the Chevron submitted Initial Study. The citation has been corrected in the Final EIR.
BR-5	Although not part of the Project, the Tree Maintenance and Hazards Reduction Plan is informative as to the measures taken by Chevron in the past that could also be taken in the future if deemed necessary. The EIR is intended as a full disclosure document and inclusion of the Plan is helpful to the public's understanding of the Project.
BR-6	The following text was added to the EIR: "Recent sightings have observed Cooper's hawk hunting rock pigeon (an introduced bird species not protected by the MBTA) in and around the IR Building (Main Plant Area). Building removal will result in beneficial results by eliminating the attractive nuisance of rock pigeon and the potential for Cooper's hawks to be inadvertently trapped inside buildings while hunting. This would result in a beneficial impact to Cooper's hawk, although the overall impact remains a significant, but mitigable impact."
BR-7	There is no BR-7.
BR-8	Compensatory mitigation is required in the event impacts are incurred. Restoration of the topography and soil surface is required including monitoring to ensure disturbed areas have been returned to pre-Project conditions, especially restoring habitat function for special status wildlife in the Project area. Compensatory mitigation would be required if habitat function is not restored. The phrase "(including topography and substrates in unvegetated areas)" was added for clarity.
BR-9	The mitigation measure has been edited per the suggestions in comment.
BR-10	There may be a need for other agency approval of biologists. Biologists may perform multiple roles for a Project and the agencies may approve on a Project-specific basis. However, the mitigation measure has been edited as suggested since City approval should also satisfy other agency standards.
BR-11	Changes have been made to the mitigation measure in response to the comment.
BR-12	See Response to Comment BR-10.
BR-13	The mitigation measure has been edited as suggested in the comment.
BR-14	The Tree Inventory Map with updated version has been replaced.
CR-1	Page 6-14 of the Cultural Resources Appendix specifically states contrary to the comment that: "Although the records search results indicated that no previously recorded cultural resources are located within the Former Sandblast Area, the mapped boundary of CA-SBA-6 encompasses adjoining areas to the immediate east and



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	<p>west. Given that prehistoric land use of the nearby costal terraces was largely continuous, it is highly likely that elements of CA-SBA-6 extend into the Former Sandblast Area."</p> <p>However, because no ground disturbance is planned in this area, it is expected that no impact would occur as suggested in the comment. The table in question has been edited to reflect the comment.</p>
CR-2	The mitigation measure has been amended in response to the comment.
CR-3	The mitigation measure does not require Chevron to independently notify the Most Likely Descendants (MLD), but rather, it states that Chevron shall notify the MLD once that is determined by the Native American heritage Commission. The portion of the mitigation Measure states: "If the remains are determined to be of Native American origin, the Most Likely Descendant (MLD), as identified by the Native American Heritage Commission (NAHC), shall be contacted by Chevron or their representative in order to determine proper treatment and disposition of the remains." No changes to the mitigation measures are warranted in response to the comment.
GS-1	Chevron submitted a revised Stormwater Pollution Prevention Plan (5/24) and the document has been included as part of the Final EIR as Appendix J.
CC-1	The emissions calculations for criteria and GHG were calculated based on the total equipment usage required to complete each Task Area and do not include separate estimates for the demolition and remediation sub tasks. This allows for consideration in case the Project schedule changes during implementation. Tasks 4 through 7 were identified for worst case annual emissions and separate demolition and remediation emissions calculations for each sub task would produce only a nominal change in the annual worst-case estimates and was not included in the FEIR.
HM-1	As detailed above, the wells along with all other legacy oil and gas facilities are part of the existing baseline. The EIR describes accurately both existing facilities proposed for decommissioning and facilities that are not proposed to be decommissioned that are within the overall Project Site and under the same ownership. The proposed Project does not include addressing the legacy and wells and as such it could result in impacts to the environment that could occur from aging, improperly abandoned wells leaking in the future. The EIR accurately describes the potential impacts in the Hazards Section.
HM-2	Similar to the legacy wells, the seeps are part of the existing environment and there is an opportunity as part of the overall decommissioning Project to remedy the seeps to ensure that hydrocarbons do not affect biological or water resources. However, and as detailed in response to ES-6 above, the Final EIR has been amended to reflect the position of the California Coastal Commission regarding the seeps.
HY-1	Chevron submitted a revised Stormwater Pollution Prevention Plan (5/24) and the document has been included as part of the Final EIR as Appendix J.
N-1	The use of the minimum hour during the daytime produces an estimate of the peak noise increases that the Project could generate over the existing baseline noise environment. Note that this is the increase over an hourly average noise level, which already accounts for variation in noise over an hour. However, it is a conservative analysis and for a construction Project, which generally has a substantial variation in noise levels over the day. The conservative increase may occur periodically, but most likely would not generate these noise increases enough to generate noise issues for neighbors and disturbance for residences. Note that although the municipal code exempts construction, the goal of the municipal code is to prevent noise issues that are <b><i>"detrimental to the public health, welfare, and safety"</i></b> . Therefore, mitigation measures have been retained but modified to allow for communication and outreach and to apply more stringent noise control measures if noise complaints become an issue.
N-2	The use of ambient-sensitive beepers or flaggers is an established construction measure to reduce noise levels. Beepers produce the greatest noise annoyance, per studies (Institute of Noise Control Engineering 2000) on construction activities, and reasonable efforts should be made on the part of the Applicant if noise complaints and annoyance of residences is a concern. The mitigation measure has been modified to allow for the use of ambient sensitive backup alarms to reduce noise levels.
N-3	The mitigation measure has been modified to only require mitigation in the event that complaints become an issue. The complaints-based system would examine the sources of noise generating the complaints and take appropriate measures.

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N-4	The limits on nighttime activities mitigation measures have been modified to apply to onshore activities only. Note that nighttime noise levels were not examined by the Applicants noise study, and that nighttime activities can produce greater impacts as ambient noise levels are lower during the night and residents are more susceptible to disturbance as they may be sleeping. However, with the addition of communication measures added to the mitigation measures, and the feasibility issues related to conducting offshore activities only during lower tide periods, along with the short duration of offshore activities, impacts would be less than significant.
TCR-1	The Final EIR has been amended to reflect the comment.
A-1	Please see the response to ES-2 above. In addition, please note that the level of risk is stated as potential based on CalGEM information that shows that as improperly abandoned wells age, there is a higher likelihood of potential leakage.
A-2	Please see response to ES-6 above.
A-3	Please see the response to ES-8 above.
A-4	The discussion on the No Project Alternative does not describe aquifers or sources of drinking water as potentially affected. The discussion accurately describes the potential for contaminated materials to leach out into nearby creeks, the Carpinteria Wetlands or the Ocean.
A-5	See response to ES-6 above.
A-6	Please see responses to ES-6, ES-7, ES-8 and ES-9 above.
<b>Citizens of the Carpinteria Bluffs</b>	
CCB-1	It should be noted that Dump Road is a private road and that Chevron, and its predecessors, have provided informal access through Dump Road. Chevron has stated to the City that they reserve their rights to their private road (Dump Road) to include possible temporary closure for safety reasons during decommissioning activities. See responses above under DA-4 and DA-6.
CCB-2	As stated in Section 4.3 Biological Resources, the Project would require the removal of 62 non-native trees for soil excavation and remediation, including 60 blue gum and two Monterey cypress (planted). None of the trees are located in City designated Open Space or ESHA areas. As a result, the City has included a requirement for Tree Removal Mitigation under Mitigation Measure Bio-5. Also, Mitigation Measure Bio.1c has been amended to add more protections to monarch butterflies. Finally, more recent survey information from the City of Carpinteria 2023 Environmental Review and Monitoring Status report has been added to the Biological Resources Section, 4.3.
CCB-3	The EIR contains a robust program for mitigating any potential impacts to the Seal Rookery as described in Mitigation Measure Bio.1g, Harbor Seal Rookery Monitoring and Protection. Mitigation measures are limited to impacts that could occur as a result of the Project. There is no nexus for requiring additional mitigation as expressed in the comment.
CCB-4	Chevron has mapped the drainage system through the Project Site and Chevron intends to preserve appropriate drainage for the Project Site.
<b>Stephanie Turcotte Edenhelm</b>	
STE-1	The statement in support of the Project is acknowledged. No additional comment is included on the Draft EIR, and no additional response is needed.
<b>Environmental Review Committee, December 2023 Meeting</b>	
ERC-DA-1	Comments supporting the ESA and of concern for activities occurring South of the railroad tracks are acknowledged. No additional comment on the Draft EIR is included and no additional response warranted.
ERC-DA-2	Decommissioning activities and schedules are included in Section 2.0, Project Description and in tables 2-8, 2-9 and 2-10. Offshore pipeline removal activities are scheduled to last up to 2 months.
ERC-DA-3	Comment regarding the decline of seals is acknowledged. The EIR contains mitigation measures to protect the seals and reduce impacts to less than significant.
ERC-DA-4	Mitigation measures are developed based on nexus to impacts and in rough proportionality to the level of impact. Impacts to seals are temporary and mitigated to less than significant with the Mitigation measure Bio.1g. With the adoption and enforcement of mitigation measures, impacts are considered less than significant.

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ERC-DA-5	Language in the Final EIR has been edited to reflect that although there are reductions of seal populations in certain times of the year, seals are present all year round.
ERC-DA-6	Mitigation measures are developed based on nexus to impacts and in rough proportionality to the level of impact. Impacts to seals are temporary and mitigated to less than significant with the Mitigation measure Bio.1g. No additional mitigation, like compensatory mitigation or permanent beach closures as suggested in the comment is required.
ERC-DA-7	Comment supporting the removal of as many facilities as possible is acknowledged. No additional comment on the Draft EIR is included and no additional response warranted.
ERC-JI-1	Construction activities on the beach areas may include nighttime lighting to work with tidal and weather conditions. Lights from these activities would be visible from the Carpinteria Bluffs and adjacent neighborhoods but would be mitigated with standard light minimization techniques such as the use of low intensity lights and light shielding. Section 4.10, Noise and Vibrations does state that "Nighttime construction activities may be necessary in the surf zone due to tidal access issues; however, these activities would be temporary and short term." In addition, Noise mitigation measures have been amended in response to the comment.
ERC-JI-2	Section 4.3 Biological Resources, subsection 4.3.2.3, Local Regulations, contains information on City regulations on seal protection and nesting birds as stated in the comment.
ERC-JI-3	Description of the timing of plans is acknowledged. No comment on the Draft EIR is included.
ERC-JI-4	Finding of the Draft EIR in conformance to CEQA Guidelines is acknowledged.
ERC-JM-1	The comment stating that the Project is highly visible and located near public open spaces is acknowledged. The Draft EIR accurately describes the location of the Project Site.
ERC-JM-2	The Project is not slated to interfere with access to public recreational areas.
ERC-JM-3	A Tree Maintenance and Hazard Reduction Plan (Plan) was prepared to support a significant tree maintenance activity for the elimination of safety hazards at the Carpinteria Oil and Gas Processing Facility. Recent storms during the 2022-2023 winter season resulted in significant tree instability and several tree failures (a total of 12 trees) at the Project Site or falling onto the Project Site from adjacent land, with targets being subject to hazardous conditions, including high voltage transmission lines, buildings, pedestrians, and vehicles. As a result, Chevron elected to have the trees evaluated for risk of failure and determine proper mitigation measures to reduce or eliminate hazardous conditions. This evaluation was conducted by an International Society of Arboriculture (ISA) Certified Arborist and Certified Tree Care Professional (Branch Out Tree Care). A total of approximately 608 trees were evaluated throughout 12 areas within the Project Site to identify the needs for maintenance. The evaluation identified that in some instances, the cause of recent tree failures and potential additional failures was high soil saturation in conjunction with structural weakness caused by fungal root decay. This activity was not considered part of the Project as it needed to occur on a timely basis to prevent any damage.
ERC-JM-4	Comments supporting the decommissioning Project and protection of public safety are acknowledged.
ERC-JM-5	The Project would not result in the blockage of available views to the ocean from U.S. Highway 101, would not incrementally change the character of the area, and is required to include restoration of existing vegetation. The Project is temporary in nature and will remove an industrial facility from the bluff area resulting in a beneficial effect to overall coastal recreational users.
ERC-JM-6	The comment in support of the remediation of the area is acknowledged. The Project as proposed will result in remediation of contamination in the Project Site as supported by the comment.
ERC-NB-1	The Carpinteria Harbor Seal Monitoring and Protection Plan (Plan) has been prepared by Padre on behalf of Chevron U.S.A. (Chevron) in support of the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project (Project). The Project also includes the removal of pipelines from the bluff and beach areas adjacent to the Casitas Pier and west of the Carpinteria Harbor Seal Rookery. The Protection Plan outlines avoidance and minimization measures intended to reduce the potential for Project-related impacts on the harbor seals during temporary construction activities. MRS biologists reviewed Padre's proposed Protection Plan and have reviewed the level of impact described and added requirements as part of the Biological Resources mitigation

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	measures. As described below, compliance plans would need to be approved by other responsible agencies as the Project moves into its permitting phase.
ERC-NB-2	All mitigation measures, as appropriate contain requirements for approval from the various agencies including the United States Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA) Fisheries, and California Department of Fish and Wildlife (CDFW). All these agencies will either issue permits, or review mitigation plans before final City approval.
ERC-NB-3	As described in the Project Description, the daily schedule is estimated at Monday through Friday for eight to ten hours for onshore components and up to seven days a week and 12 hours per day for offshore components to account for variations in tide and resulting access to the pipelines. In addition, there are a number of other requirements imbedded in various mitigation measures or the Project Description. For example, trucks will be coming in and out of the Site daily and be limited to the hours between 9:00 a.m. to 4:00 p.m. to avoid peak traffic hours. Beach Project activities will be scheduled during low tide windows and limited to daylight hours only to maximize visibility and ensure safety during repair work.
ERC-NB-4	The skate Park tree removal is not part of the Chevron Decommissioning Project, and the EIR preparers did not quantify the trees that might have been removed as part of that effort. The Project would require the removal of 62 non-native trees for soil excavation and remediation, including 60 blue gum and two Monterey cypress (planted). None of the trees are located in City designated Open Space or ESHA areas. In addition, and as part of ongoing maintenance and hazard reduction that could originate from falling dead trees or branches, the Applicant removed another 22 dead or diseased trees throughout the Project Site.
ERC-NB-5	As stated in the DEIR, "construction GHG emissions (including mobile sources) would exceed the Santa Barbara County threshold of significance and therefore GHG emissions, either directly or indirectly, may have a significant impact on the environment." However, these impacts are considered mitigable and Mitigation Measure GHG.1, GHG Emissions Reductions, is included to ensure that all construction GHG emissions are appropriately mitigated. GHG emission reduction credits will be used at the time the Project is occurring. The necessary annual quantity of verified credits under the GHG mitigation shall be surrendered prior to April 15 of each calendar year following the year of initiating construction
ERC-NL-1	Chevron submitted a revised Stormwater Pollution Prevention Plan (5/24) and the document has been included as part of the Final EIR as Appendix J.
ERC-NL-2	The DEIR contained Figure 4.3-3, which contains a map of wetlands on the Project Site. In addition, Appendix C-4, Wetland Delineation Appendix, contains detailed information and location of wetlands.
ERC-NL-3	The comment on the details of mitigation measures was not specific to any mitigation measure. The mitigation measures are all specific and include monitoring requirements, timing, and success criteria, as appropriate.
ERC-NL-4	Mitigation measure Bio.1c, Pre-construction Wildlife Surveys include Monarch butterflies as follows: "A City-approved wildlife biologist shall conduct a pre-construction survey of the Project Site and surrounding habitat to determine the presence of roosting monarch butterflies if construction activities, tree removal, or tree trimming are scheduled to begin between October 1 and March 1. A monarch management plan shall be prepared prior to any construction activities. The plan shall include: details describing which trees shall not be impacted by construction or tree trimming, a scheduling plan that would require the construction phase of the Project to begin before the arrival of monarchs (typically October 1) or after they depart (typically March 1); surveys by an approved biologist during the construction to verify habitat condition and roosting activity; if construction, tree removal, or tree trimming needs to occur within 500 feet of monarchs, the plan needs to include prohibition of activities that create excessive dust, vibration, or physical disturbance; and suitable setbacks from the edge of the groves to preserve habitat quality."
ERC-NL-5	Mitigation measure Bio.1c also contains requirements for the offshore pipeline removal and other offshore activities as follows: "Pre-Decommissioning Marine Biological Dive Surveys. No more than 90 days prior to commencement of offshore activities, a City-approved, qualified marine biologist shall conduct a pre-decommissioning marine biological survey, with, of the sensitive habitat areas adjacent to the near-shore pipeline corridors. If sensitive seagrass species are identified, anchor locations shall be relocated to avoid impacts to these protected habitats and post-decommissioning surveys would be conducted to verify seagrass beds had not been impacted by Project related activities. If seagrass beds have been impacted, Chevron shall be required to prepare

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	and implement eelgrass restoration as part of the Habitat Restoration and Revegetation Plan under Bio.1b that shall be approved by the City. Adjustments to decommissioning methodologies in sensitive habitats may be made to reduce impacts to these areas. In addition, remote operated vehicles or multi-beam geophysical surveys shall be conducted at each anchor location to confirm the absence of hard-bottom habitat.  Plan Requirements/Timing: The results of the pre-decommissioning marine biological dive surveys shall be submitted to the City for review and fully implemented prior to the issuance of grading permits. Monitoring: Implementation of this measure shall be initiated by the Applicant Project manager and monitored by the designated marine wildlife monitor."
ERC-NL-6	Monitoring of activities as stated in the comment is required for all mitigation measures.
ERC-NL-7	Mitigation measure Bio.1b, Habitat Restoration/Revegetation Plan, include requirements for erosion control and revegetation. An Erosion Control Plan as required under mitigation measure Geo.2 would ensure addressing potential erosion issues as referenced in the comment.
ERC-NL-8	The preference for rice straw bales as referenced in the comment has been added to mitigation measure Geo.2.
ERC-NL-9	Mitigation measure Bio.7, Oil Spill Contingency Plan includes as follows:" c. Spill response personnel shall be adequately trained for response in terrestrial environments, and spill containment and recovery equipment shall be maintained in full readiness. Inspection of equipment and periodic drills shall be conducted at least annually, and the results evaluated so that spill response personnel are familiar with the equipment and with the Project area including sensitive onshore biological resources."
ERC-NL-10	Mitigation measures Geo.4a, Bluff Stabilization Plan and measure Geo.4b, Bluff Stabilization During Pipeline Removals contain requirements consistent with the comment.
ERC-NL-11	Removal of all non-native trees as stated in the comment is not part of the Project, nor has it been identified as a mitigation measure for any Project impact. Non-native trees offer a number of benefits to the area including nesting areas for raptors and other birds; and screening of the facilities in the western (adjacent to Dump Road), northern, and eastern sides of the property. The City of Carpinteria considers tree windrows and individual trees important biological resources.
ERC-NL-12	The timing for various surveys is determined by City-approved biologists. In addition, the requirement for surveys no more than 90 days is for sensitive seagrass species that are not expected to change substantially within that time period.
ERC-NL-13	The Project is not expected to have a negative impact on any recreational areas such as Tar Pits Park and the Carpinteria Bluffs Trail. Decommissioning activities may have a temporary impact on aesthetics to recreational users along the bluff trails, and Tar Pits Park. These potential impacts would be short term and temporary. Access during construction will be maintained.
ERC-NL-14	Mitigation measures are proposed to ensure that impacts are reduced to less than significant for nesting birds.
ERC-SA-1	The Pitas Point Facility is owned by SoCalGas and has not been active for some time. The City is working with SoCalGas towards decommissioning of that facility separate from Chevron ongoing decommissioning efforts.
ERC-SA-2	The general location of the wells is provided as part of Figure 2-12, Facilities Not Proposed as Part of the Project. Three wells are located within the Buffer Zone Area/Drainage Area No. 4. One well is located adjacent to the southern property boundary south of the Chevron Pipeline Area. One well is located in the Tank 861 berm area immediately southeast of Tank 861. One well is suspected to be located within the Oil and Gas Facility Main Plant Area. One well is suspected to be located at the southern portion of the Main Plant Area.
ERC-SA-3	The comment regarding the Full Removal Alternative is noted.
ERC-SA-4	The comment regarding financial responsibility is noted.
ERC-SA-5	Mitigation measures were developed to ensure that the harbor seals rookery is adequately protected during the temporary abandonment of facilities south of the railroad tracks.



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ERC-SA-6	Chevron reserves their rights to use the private road to include possible temporary closure for safety reasons during decommissioning activities. Chevron has historically allowed pedestrian access via Dump Road; however, Dump Road remains a private road with no public access. There is no public vehicle access along that road. The City is working with Chevron on access issues separate from this Project and separate from the environmental document. Please see response to DA-4 above.
ERC-SA-7	The applicant has latitude to access its facility in a manner most conducive to efficiently decommission facilities within the Project Site. No restrictions as to points access were deemed necessary in the analysis of Project impacts.
ERC-SA-8	The Project includes a restoration and revegetation component to ensure adequate backfill of areas where facilities are removed and prevent erosion and cave ins.
ERC-SA-9	The offshore and onshore pipeline removal is slated to occur in a manner that would minimize impacts to the seal rookery.
ERC-SA-10	Pipelines east of the pier are appropriately identified and mapped.
ERC-SA-11	The DEIR describes all decommissioning activities that are proposed as part of the Project. Tree maintenance had to occur in advance of the DEIR issuance because of potential impacts to the public and to powerlines from falling trees and branches. These emergency activities are identified for reference but are not part of the proposed Project.
ERC-SA-12	The wells on the Project Site are identified based on the CalGEM databases.
ERC-SA-13	Temporary installation of barriers is necessary to reduce longer term impacts to seals throughout the duration of the decommissioning activities.
ERC-SM-1	Mitigation measures were developed to ensure that the harbor seals rookery is adequately protected during the temporary abandonment of facilities south of the railroad tracks.
ERC-SM-2	As suggested in the comment, impacts to the seal rookery would be limited to outside of the pupping season. In addition, various mitigation components are included as part of mitigation measure Bio.1g, Harbor Seal Rookery Monitoring and Protection to ensure that impacts to marine mammals are properly mitigated.
ERC-SM-3	The Final EIR has been corrected to reflect the fact that during the summer/fall months, when beach activities are permitted in the area, there is a substantial decrease in the number of seals in the area. This is a more apt description of the seals population that "largely abandoned".
ERC-SM-4	Impacts to the seals and to the Seal Rookery are analyzed in the EIR. Impacts were found to be significant and mitigable. As a result, mitigation measures have been included in the EIR to ensure that all impacts to the seals are adequately mitigated.
ERC-SM-5	The comment stating that all alternatives will have impacts to seals is acknowledged. The Project is considered beneficial in the long term because it will remove facilities no longer in use and impacts of the Project are expected to be short-term and temporary.
ERC-TF-1	Comment regarding Chevron's corporate responsibility is acknowledged. No specific comment on the Draft EIR is included and no additional response needed.
ERC-TF-2	Comment regarding natural seeps is acknowledged. No specific comment on the Draft EIR is included and no additional response needed.
ERC-TF-3	Comment regarding the conditions of the Project is acknowledged. No specific comment on the Draft EIR is included and no additional response needed.
ERC-TF-4	The DEIR contains information on the previous use of the Site as part of the Project Description.
ERC-VS-1	Mitigation measure Bio.1c, Pre-construction Wildlife Surveys, includes requirements to conduct surveys for monarch butterflies and includes a monarch butterflies management plan consistent with the intent of the comment.
ERC-VS-2	The proposed tree removal that is part of the Project would be located at least 800 feet from the known aggregation area and would not substantially modify the micro-environment within the aggregation area (wind, temperature). However, the mitigation measure Bio.1c, Pre-construction Wildlife Surveys, contains a requirement that "if

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	construction, tree removal, or tree trimming needs to occur within 500 feet of monarchs, the plan needs to include prohibition of activities that create excessive dust, vibration, or physical disturbance; and suitable setbacks from the edge of the groves to preserve habitat quality." One discussion refers to the areas where tree removals would occur, while the other discussion is a requirement in the event that construction activities occur within 500 feet of monarchs.
ERC-VS-3	The City Biologist's Reports have been reviewed and information added to the Biology Section as appropriate.
ERC-VS-4	Impacts to marine species related to underwater pipelines removal are discussed in section 4.3 Biological resources. In essence, noise related disturbances related to the pipeline removal activities would impact marine species having to avoid or move out of the Project Site. However, the pipeline removal activities are expected to be completed in less than two months and would therefore be considered temporary and similar to those level of disturbances from baseline conditions caused by normal vessel and near shore boat traffic in the Project vicinity. Noise impacts to marine species are not expected to result in substantial changes to populations of marine mammals or the breeding success of any marine species and are therefore considered to be less than significant.
ERC-VS-5	Offshore pipeline removal activities would be limited to a small, focused work area (about five acres) within the 20-mile-wide Santa Barbara Channel and pipeline removal will be temporary (approximately two months). Impacts to specific special-status marine species are addressed under impact Bio.1 above. Therefore, the Project is not anticipated to significantly affect any fish, marine mammal, or seabird movement.
ERC-VS-6	General underwater construction noise levels, related to pipe cutting and underwater excavation, are not anticipated to exceed harassment thresholds published by NMFS in the Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing. The major contributors to underwater noise from excavation jetting include sounds involving the movement of sediment, water, and air against the seabed, and ship machinery sounds associated with the lowering and lifting of equipment.
ERC-VS-7	As detailed in the Draft EIR, 1, the bluff and onshore pipeline removal shall be scheduled to occur between June 1 and November 30 to avoid pupping season. Project decommissioning activities within 1,000 feet of the rookery shall be scheduled to avoid pupping season (December 1 through May 31).
ERC-VS-8	Wetland W-1 will be replaced on a minimum 1:1 basis per the Applicant-proposed expansion of existing wetlands in the Drainage No. 4 Area. The temporary loss of 0.27 acre within W-5 will be mitigated at a minimum 1:1 ratio that shall include periodic monitoring to ensure the wetland naturally revegetates to pre-disturbance conditions. A coastal wetlands mitigation plan shall be prepared by the Applicant, approved by the City, and fully implemented within 120 days of the completion of soil remediation. The EIR preparers are not aware of wetland mitigation occurring within other previously revegetated efforts. However, the mitigation plan would ensure that there is no loss of other important habitat as a result of wetlands mitigation.
ERC-VS-9	Figure 4.3-10 depicts the tree inventory, and the 62 non-native trees slated to be removed as part of the Project. It does not include the trees removed in 2023 by Chevron as part of their tree maintenance program.
ERC-VS-10	According to the California Department of Fish and Wildlife, legal-sized Pismo clams are currently difficult to find anywhere in California. "Over the past century, Pismo clam abundance has seriously declined in many parts of its historic range due to several fishery-dependent and fishery-independent factors; however, recent Department and university surveys show a population spike of mostly young Pismo clams in San Diego, Pismo Beach and vicinity; and Santa Cruz County representing multiple year classes." ( <a href="https://marinespecies.wildlife.ca.gov/pismo-clam/">https://marinespecies.wildlife.ca.gov/pismo-clam/</a> ) The proposed Project did not identify any potential impacts to Pismo clams.
<b>Jon Lewis</b>	
JL-1	The facilities mentioned in the comment are not part of this decommissioning Project and are outside of the scope of this environmental document.
<b>C Kathleen Lord</b>	
CKL-1	Seals are discussed under Pinniped Haul-Outs starting on page 4.3-39. Pacific Harbor Seals are more specifically discussed on page 4.3-53.

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CKL-2	Seals are discussed under Pinniped Haul-Outs starting on page 4.3-39. Pacific Harbor Seals are more specifically discussed on page 4.3-53.
CKL-3	Seals are discussed under Pinniped Haul-Outs starting on page 4.3-39. Pacific Harbor Seals are more specifically discussed on page 4.3-53.
CKL-4	The comment is acknowledged. There is no specific edit requested, and the preparers do not understand what the intent of the comment might be.
CKL-5	Seals are discussed under Pinniped Haul-Outs starting on page 4.3-39. Pacific Harbor Seals are more specifically discussed on page 4.3-53.
CKL-6	Table 4.3.4 Shows seals as present in the eastern portion of the pier. While seals may occasionally be present west of the pier, the notation is designed to provide information about the presence of seals the majority of the time.
CLK-7	The language in page 4.3-53 has been edited to reflect the comment as follows: "The harbor seal rookery is less populated by seals in the summer and fall, when there is seasonal public access and beach activities, which will correspond to when the proposed beach and offshore Project activities will occur..."
CKL-8	Offshore work for pipeline removal is supposed to be of short duration and as such, will not result in significant and unavoidable impacts. Impacts are considered significant and mitigable, and mitigation measures are included as part of the document to mitigate any impact to less than significant. In particular Mitigation Measure Bio.1f, Marine Wildlife Contingency and Training Plan Implementation and Bio.1g, Harbor Seal Rookery Monitoring and Protection would ensure that impacts to marine mammals are properly mitigated. Historically, substantial work has occurred offshore for multiple projects, including construction of platforms, installation of pipelines, electrical cables, the Carpinteria Pier, etc. and due to their temporary nature have not resulted in long term impacts to the seals. Recent seal population decreases have occurred throughout California in the last few years.
CKL-9	The comment seems to agree that the mitigation measures included in the DEIR will serve to protect the Harbor Seal Rookery. No additional response is needed.
<b>Susan Mailheau, DVM</b>	
SM-1	While Padre provided biological studies in support of the environmental document, MRS, on behalf of the City, provided a third-party independent peer review of the document and assessed the potential impacts and required mitigation measures for this Project.
SM-2	Noise and vibration are analyzed, and impacts are mitigated to less than significant. Mitigation measure Bio.1g, Harbor Seal Rookery Monitoring and Protection includes requirements for noise minimization and the use of noise dampening shields. The impact is expected to be less than significant with mitigation. In addition to the above, noise mitigation measure N.2a will reduce noise impacts to wildlife species by requiring noise reduction with noise walls and temporary noise blankets.
SM-3	The comment disagrees with the conclusion that impacts to seals are mitigable. Biologists from MRS (on behalf of the City) and Padre (on behalf of Chevron) have studied the potential impacts to seals as a result of this temporary Project and found that, with the mitigation measures put in place by the EIR, the impacts to seals will be mitigated to less than significant.
SM-4	The document has been modified to reflect that there is typically a substantial reduction of the seal population during the summer months, and not that the seal rookery is largely abandoned.
SM-5	The relevance of the comment is unclear. The EIR clearly describes potential impacts to seals and includes mitigation measures designed to ensure that potential temporary impacts are mitigated to less than significance.
SM-6	Please see earlier responses to comments on seals impacts above.
SM-7	As stated in the DEIR, "construction GHG emissions (including mobile sources) would exceed the Santa Barbara County threshold of significance and therefore GHG emissions, either directly or indirectly, may have a significant impact on the environment." However, these impacts are considered mitigable and Mitigation Measure GHG.1, GHG Emissions Reductions, is included to ensure that all construction GHG emissions are appropriately mitigated.
SM-8	Please see earlier responses to comments on seals impacts above. As detailed in Section 4.3, Biological Resources, The Carpinteria harbor seal rookery is located approximately 270 feet from the east side of the Gail and Grace pipeline bundle and approximately 1,200 feet east of the Marketing and Marine Terminal Offloading

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	<p>Line Bundle beach, surf zone and bluff pipeline removal areas. Project decommissioning activities, including excavation, removal of cement armaments, removal of rip rap, cutting of the pipe into sections and pulling of pipe sections offshore, have the potential to cause a significant disturbance to harbor seals if they are hauled-out on the beach during Project activities. Although no injury or mortality is expected to occur, even Project-related foot traffic on the beach may cause hauled-out harbor seals to startle and flush into the water, which could qualify as a Level B harassment as defined by NOAA Fisheries (disrupting behavioral patterns). Beach/bluff and Surf Zone construction noise, related to operating heavy equipment, concrete demolition and ground disturbance has the potential to temporarily increase noise levels adjacent to the harbor seal rookery. The NOAA Fisheries has established in-air sound thresholds for sea lion and harbor seals that are set at 100 dB and 90 dB, respectively (Padre 2021c).</p> <p>As stated in the Project Description, surf zone pipeline removal operations would be scheduled to avoid the most sensitive periods (December 1 through May 31) when the haul-out area is in use by harbor seals. The harbor seal rookery is less populated by seals in the summer and fall, when there is seasonal public access and beach activities, which will correspond to when the proposed beach and offshore Project activities will occur; therefore, Project activities associated with pipeline removal are not expected to cause incidental harassment of Pacific Harbor Seal. However, decommissioning and remediation work conducted in adjacent areas when harbor seals are present may result in disturbance of this rookery, resulting in a potentially significant impact to this species.</p>
<b>Randall Moon</b>	
RM-1	Pipeline removal is scheduled to occur when the seal population is substantially diminished. In addition, mitigation measures are included to reduce impacts to less than significant. Finally, the Project is temporary and will result in overall improvement of conditions on the beach and result in a diminution of the potential for oil spills that could occur with the pipelines in operation.
RM-2	As stated in the DEIR, "In addition to year-round Federal and State protections, the City of Carpinteria closes the beach surrounding the rookery for 750 feet to the east and west of the colony from December 1 through May 31 of each year to minimize disturbance of breeding seals and seal pups. Public access and projects related to oil field operations are not allowed on this part of the beach during the seasonal closure." Contrary to the comment, the period of closure of the beach is related to the seals breeding and pupping season, and minimizing impacts during that time is critical to the rookery.
RM-3	The requirements for a third-party monitor have been specified in the mitigation measures as noted in the comment. Additional clarification has been added to Mitigation Measure Bio.1g in response to the comment.
RM-4	Seal watch members have requested coordination and participation in other comments to the DEIR and their inclusion is seen as beneficial to the seal protection as part of the mitigation measures for this Project.
RM-5	While the proposed Project is required to avoid the pupping season, there are also a number of other requirements within the document intended to reduce the impacts of this temporary beneficial Project to less than significant. Specifically, Mitigation Measure Bio.1g, Harbor Seal Rookery Monitoring and Protection, contains a number of protective requirements,
<b>Santa Barbara Channelkeeper</b>	
SBC-1	The Full Removal Alternative was included as part of the DEIR to analyze the potential impacts of removal of all facilities within the property. However, in response to letters from CalGEM and the California Coastal Commission, it is clear that there are no regulatory requirements for well plugging and abandonment and that the seeps are considered natural and not required to be remediated.
SBC-2	As suggested in the comment, impacts to the seal rookery would be limited to outside of the pupping season. In addition, various mitigation components are included as part of mitigation measure Bio.1g, Harbor Seal Rookery Monitoring and Protection to ensure that impacts to marine mammals are properly mitigated.
<b>Santa Barbara County Air Pollution Control District</b>	
APCD-1	The additional Project activities requested have been added to Table 1.2.

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APCD-2	Equipment, pipeline, and surface materials deemed hazardous would be included in the estimated trips to Buttonwillow (201 miles) included in the air emission calculations. Estimated trips to Buttonwillow include Chevron Pipeline Area (2), Former Marketing Terminal Area (20), Shop and Maintenance Area (2), Main Plant Area (56), and MSRC Lease Area (10) for a total of 90 trips.
APCD-3	Emissions for Ventura, Los Angeles, Kern, and Kings counties along with applicable thresholds have been added as Table 4.2.7.
APCD-4	To address the potential for odors, the following mitigation measure was added to the discussion of AQ impact #2, and the impact classification was revised to less than significant with mitigation (Class II).  AQ.1 Odor Control and Purging Plan: The Applicant shall submit an Odor Control and Purging Plan that includes the use of degassing systems for equipment and pipeline purging operations that may be required and includes proactive measures to eliminate or reduce objectionable odors emanating from construction and decommissioning activities, and an action plan if odor issues or complaints arise.
APCD-5	A HRA has been prepared for the construction and trucking emissions and is included as Appendix C. The HRA utilized HARP2 and included area sources for all construction areas as well as trucks within 1000 feet of the Project Site. The duration of the exposure is based on 3 years starting at the third trimester, as per CAPCOA guidance for short term projects. The approach follows the requirements in SBCAPCD form-15i. HARP2 files have been added to Appendix C. Risk levels are shown to be below the thresholds at the residential and fence line (for acute) receptors.
APCD-6	A HRA has been prepared for the construction and trucking emissions and is included as Appendix B. See the response to APCD-5 above.
APCD-7	The text in Section 4.6 and Table 4.6-6 have been revised per the comment.
APCD-8	Text has been revised in Section 4.2.2.3, Local Regulations, providing additional detail on the District's role in the Project permitting and CEQA review.
APCD-9	Marine vessel permitting requirements have been added to Section 4.2.2.3, Local Regulations under sub-heading SBCAPCD Permits.
APCD-10	Diesel engines and the PERP requirements have been added to Section 4.2.2.3, Local Regulations under sub-heading SBCAPCD Permits.
APCD-11	Authority to Construct and/or Permit to Operate requirements have been added to the discussion of contaminated soils in Section 4.2.2.3, Local Regulations under sub-heading SBCAPCD Permits.
APCD-12	District requirements for asbestos demolition/renovation have been added to Section 4.2.2.3, Local Regulations under sub-heading SBCAPCD Permits.
APCD-13	District requirements for ROC storage have been added to Section 4.2.2.3, Local Regulations under sub-heading SBCAPCD Permits.
APCD-14	District requirements for pipeline purging have been added to Section 4.2.2.3, Local Regulations under sub-heading SBCAPCD Permits. Mitigation measure AQ.1, Odor Control and Purging Plan, has been added to address the potential for odors.
APCD-15	District Rule 345 has been added to the discussion of fugitive dust in Section 4.2.2.3.
APCD-16	Diesel truck idle time requirements have been added to Section 4.2.2.3, Local Regulations under sub-heading SBCAPCD Permits.
<b>Santa Barbara County Flood Control District</b>	
FCD-1	The Final EIR has been amended in response to the comment.
FCD-2	The statement has been deleted in response to the comment.
<b>Amrita Salm</b>	
AS-1	Several Site-wide and localized Site assessment events and impacted soil remediation activities have been completed at the Project Site between the 1980s and 2019. The Environmental Protection Agency, the Regional Water Quality control Board and the Santa Barbara County Public Health Department, Environmental Health Services Division have been regulating the Site for a number of years and have determined cleanup levels for the Site in consideration of the contaminated material left to remediate and the previous remediation activities that



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	have occurred at the Site. It is expected that the Site would be remediated to support the highest possible unrestricted land use.
AS-2	Hazardous Soil, Concrete, Pipelines are slated to be taken to Buttonwillow (Kern County) and/or Kettleman City (Kings County). Non-Hazardous Soil would be taken to Waste Management (Simi Valley, Ventura County) and/or McKittrick, Buttonwillow (Kern County).
AS-3	The Buffer Zone is the area behind Arbol Verde Street.
AS-4	Scrap Steel, Clean Asphalt, or Clean Concrete for Recycling would be taken to State Ready Mix Recycling - Asphalt and Concrete (Oxnard, Ventura County) Standard Industries - Steel, (Ventura, Ventura County).
AS-5	The Environmental Protection Agency, the Regional Water Quality control Board and the Santa Barbara County Public Health Department, Environmental Health Services Division are regulating the Site and would ensure that the Site is appropriately remediated. In addition, the City of Carpinteria will have oversight for the conditions of approval for the Project that include requirements for restoration of the Project Site.
AS-6	Various mitigation components are included as part of mitigation measure Bio.1g, Harbor Seal Rookery Monitoring and Protection to ensure that impacts to marine mammals are properly mitigated.
AS-7	Class I impacts are limited to potential for oil spills that could occur during the implementation of the Project. However, by conducting the Project, potential long-term impacts will be diminished, and the Project's overall effects would be beneficial. Project impacts to the Seal Rookery are expected to be temporary in nature and mitigated with a variety of requirements as part of mitigation measure Bio.1g. Impacts of housing on the Project Site are not analyzed under this environmental document and are considered speculative at this time.
AS-8	Chevron is the Project proponent and is responsible for all the costs associated with the Project.
<b>Betty Songer</b>	
BS-1	The City of Carpinteria will monitor compliance with all conditions of approval that get adopted as part of permitting the Project. The APCD has reviewed and commented on the Draft EIR and will be available in the event the City needs additional air quality expertise.
BS-2	Wells Nugent 1 and Nugent 2 are suspected to be in the Buffer Zone area. Both wells are described as dry holes and no contamination related to those wells is expected. No additional contamination has been found in the area and no remediation is proposed.  In December 1999 an 18,000-gallon capacity diesel fuel underground storage tank (UST) previously used to fuel boats at the Casitas Pier was removed and transported offsite to Standard Industries located in Ventura, California for recycling.
BS-3	Project impacts to the Seal Rookery are expected to be temporary in nature and mitigated with a variety of requirements as part of mitigation measure Bio.1g.
BS-4	Impacts of housing on the Project Site are not analyzed under this environmental document and are considered speculative at this time.
<b>United States Army Corps of Engineers</b>	
USACE-1	Chevron is aware of potential requirements for permits that might be needed from the United States Army Corps of Engineers. No specific comment is provided on the Draft EIR and no additional response is needed.
<b>Charis van der Heide</b>	
CV-1	With regard to the tree work in 2023, that action is not associated with the EIR, but information on Monarchs associated with that action may be used, such as recommended work buffers or other protection measures, timing of surveys and tree removals, etc.  A Tree Maintenance and Hazard Reduction Plan (Plan) was prepared to support a significant tree maintenance activity for the elimination of safety hazards at the Carpinteria Oil and Gas Processing Facility. Recent storms during the 2022-2023 winter season resulted in significant tree instability and several tree failures (a total of 12 trees) at the Project Site or falling onto the Project Site from adjacent land, with targets being subject to hazardous conditions, including high voltage transmission lines, buildings, pedestrians, and vehicles. As a result, Chevron elected to have the trees evaluated for risk of failure and determine proper mitigation measures to reduce or

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	<p>eliminate hazardous conditions. This evaluation was conducted by an International Society of Arboriculture (ISA) Certified Arborist and Certified Tree Care Professional (Branch Out Tree Care). A total of approximately 608 trees were evaluated throughout 12 areas within the Project Site to identify the needs for maintenance. The evaluation identified that in some instances, the cause of recent tree failures and potential additional failures was high soil saturation in conjunction with structural weakness caused by fungal root decay. This activity was not considered part of the Project as it needed to occur on a timely basis to prevent any damage.</p> <p>Fall and winter surveys focusing on monarch butterflies were performed by Padre on behalf of Chevron at the Site in the years leading up to the tree maintenance activity, including December 14, 2020 (2 patrolling individuals, no aggregations observed), February 2, 2021 (no aggregations observed), February 15, 2021 (no aggregations observed), October 21, 2022 (no aggregations observed), and January 18, 2023 (individual monarchs, but no aggregations observed). Pre-activity surveys were then conducted in March 2023, followed up by daily biological monitoring of the tree maintenance activities. Beginning in October 2023, biological monitoring focused on the arrival of any monarch butterflies, which resulted in no observations of aggregating butterflies within or near the tree maintenance area throughout the remainder of the work activity. Upon a follow-up visit, Padre observed approximately 1,025 monarch butterflies aggregating in the Buffer Zone on December 12, 2023. Therefore, we believe proper due diligence was performed, and the overall Site is still performing as a suitable monarch roost.</p> <p>Regarding the subject of ESHA, according to the City's Environmentally Sensitive Habitat overlay, only the Buffer Zone and Bluffs are formally mapped as ESHA. The entire area along both sides of Dump Road, from Carpinteria Ave to the Bluffs, is mapped as Coastal Dependent Industry or Planned Unit Development according to the City's Land Use Map. The known monarch butterfly roost area at the Dump Road/Gate 1 intersection has been analyzed and included in the analysis and to areas to be protected. No work is currently planned in this area. If work becomes necessary, it will be incorporated into and performed in accordance with the required Monarch Butterfly Management Plan.</p> <p>No tree removals are planned at the Dump Road/Gate 1 area as part of the decommissioning work. The EIR provides protection for all monarch butterfly roosting habitat, which applies not only to the Buffer Zone, but also to the Dump Road/Gate 1 area. The full implementation of mitigation measures for the Project, including a Monarch Butterfly Management Plan, will require the preservation for monarch aggregation areas throughout the Project.</p>
<b>Ventura County Resource Management Agency</b>	
RMA-1	<p>There are no biological species that would be affected as a result of the proposed Project in Ventura County. The comment does not specifically state what species could be affected by the proposed Project within the boundaries of the County of Ventura. Transportation of materials through Ventura County is not expected to incur any impact to biological resources. All facilities slated to receive materials are appropriately permitted to receive materials substantially in excess of those produced by the Project. As outlined below, the proposed Project will not result in any exceedance of the permitted capacities of these facilities or result in any additional potential impacts on biological resources beyond those associated with ongoing operation of those facilities.</p> <p>The biological resource discussions in the Draft EIR include a detailed discussion of regional and local terrestrial and marine biological resources. The DEIR provides mitigation measures as applicable for any biological impacts. These measures are intended to reduce potential adverse impacts to biological resources throughout the Project Site and regionally.</p>
RMA-2	<p>Table 2-6 has been revised in response to the comment and additional information is included on the volumes of material to be directed to the various receiving facilities. The technical information on the table has been provided for the purpose of addressing comments received regarding Project demolition and the remaining capacity of proposed waste receiving locations. It is important to note that these options presented are intended to provide the anticipated scenario with respect to Project implementation. However, if a receiving facility has reached capacity or is unable to support Project activities by the time permits have been issued and the Project is</p>

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	implemented, an alternative receiving facility capable of accepting the waste for recycling or disposal would be identified.
RMA-3	<p>With regards to trip generation and timing, the conservative worst-case day utilizing the shortest trucking route to Waste Management Simi Valley or State Ready Mix could allow for up to 2.5 trips/day x 16 trucks or approximately 40 truck roundtrips per day to/from the Project Site; however, the average day will more likely utilize approximately 16 trucks total per day. As 5,445 truckloads total are required, (5,445/16 trucks per day); approximately 340 intermittent hauling days throughout the 3-Year Project construction timeframe would therefore be required. We are unable to provide an estimated number of trips per month, as that number would fluctuate based on the Project phase and would be a less conservative estimate if an average was provided.</p> <p>The materials volumes and associated truck trips are based on conservative estimates provided in the Project Application package. The Project will coordinate with each of the potential disposal site operators to verify Project-related truck trips and material volumes do not exceed the facility-permitted capacity. Based on communications with the operators of these facilities, as currently proposed, the Project would not result in the identified facilities exceeding the permitted levels of activity at each facility. Below are the proposed waste receiving facilities and remaining capacities:</p> <p><b>Buttonwillow (Kern County).</b> Clean Harbors Buttonwillow is located at 2500 West Lokern Road, in Buttonwillow, California. The facility has a maximum permitted throughput of 10,500 tons per day. The facility has a maximum permitted capacity of 13,250,000 cubic yards and an anticipated cease of operation date of 2040(Cal Recycle, 2024).</p> <p><b>WM McKittrick Waste Landfill (Kern County).</b> The McKittrick Waste Landfill is located at 56533 Highway 58 in McKittrick, California. The daily capacity is 3,500 tons per day, and the remaining capacity is approximately 769,790 cubic yards of a maximum permitted capacity of 5,474,900 cubic yards (Cal Recycle, 2024).</p> <p><b>Kettleman Hills (Kings County).</b> Kettleman Hills Facility is located at 35251 Old Skyline Road in Kettleman City (Kings County). Kettleman Hills is a fully permitted, 1,600 acre hazardous waste treatment, storage and disposal facility. Approximately 499 acres are currently available. The facility is permitted to receive a maximum of 2,000 tons of municipal solid waste per day, but typically received an average of only about 1,350 tons. The Landfill has a remaining capacity of 4.9 million cubic yards (30+ years) (WM, 2024).</p> <p><b>Grimes Rock, Fillmore (Ventura County).</b> Grimes Rock is located at 3500 Grimes Canyon Road in Fillmore, California. Grimes Rock is one of the largest construction aggregate processing plants in Ventura County and produces a variety of aggregate products. Grimes Rock would be available to provide recycling of concrete or asphalt waste from demolition activities at the Onshore Facility.</p> <p><b>Waste Management (WM) Simi Valley (Ventura County).</b> Non-hazardous impacted soils would be transported by truck to the Simi Valley Landfill located at 2801 Madera Road in Simi Valley, California. The Simi Valley Landfill provides approximately 60 percent of Ventura County's daily refuse disposal needs, and 75 percent of all tons accepted at the facility originate in Ventura County. The facility is permitted to accept up to 3,000 tons per day of refuse and can accept 6,250 tons per day of recyclable materials (WM, 2023). The remaining capacity is approximately 82,954,873 cubic yards (Cal Recycle, 2024).</p> <p><b>State Ready Mix Recycling, Oxnard (Ventura County).</b> Demolished concrete or asphalt would be transported to State Ready Mix located at 3127 Los Angeles Avenue in Oxnard, California, for recycling. State Ready Mix accepts all types of demolition concrete and asphalt and recycles it into road base material that can be reused in future road pavement construction. This facility is one of the largest certified asphalt and concrete recyclers in Ventura County (State Ready Mix, 2023). Since processing concrete through State Ready Mix Recycling does not require long-term storage, total remaining capacity of this facility is not applicable. Daily capacity is dependent</p>

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	<p>upon remaining space available at the time, and would be coordinated with State Ready Mix with respect to timing for processing. Concrete or asphalt would be temporarily staged onsite until the facility can accommodate the material. Additionally, the facility is regularly inspected by Ventura County Integrated Waste Management Division.</p> <p><b>Standard Industries, Ventura (Ventura County).</b> Recyclable steel material generated during proposed Project decommissioning activities would be transported to Standard Industries located at 1905 Lirio Avenue in Saticoy, California. Standard Industries is a private, 10-acre recycling facility in Ventura County. Standard Industries will receive the scrap material and then process it for recycling and reuse. Daily capacity is dependent upon the remaining space available at the time and would be coordinated with Standard Industries with respect to timing for processing. Recyclable steel would be temporarily staged onsite until the facility can accommodate the material. Additionally, the facility is regularly inspected by Ventura County Integrated Waste Management Division.</p> <p><b>Gold Coast Recycling, Ventura (Ventura County).</b> Gold Coast Recycling and Transfer Station is located at 5275 Colt Street in Ventura, California. This facility would be utilized for the small portion of waste generated from proposed Project decommissioning activities that cannot be recycled. The facility is 75,000 square feet and works in conjunction with Harrison Industries for waste receiving and processing.</p> <p>Items that cannot be recycled are most likely taken by Gold Coast and Harrison to the 343-acre Toland Road Landfill in Santa Paula, California, that has a maximum permitted throughput of 2,864 tons per day and has approximately half of their capacity left (16,068,864 cubic yards) (Cal Recycle, 2023).</p>
RMA-4	<p>The alternatives for offshore pipeline disposal and potential environmental justice impacts are discussed below.</p> <p>POLB Disposal Alternative to SA Recycling. SA Recycling is located within an area that has been identified by OEHHA as being an area with high pollution, but low population. In the event that the offshore pipelines are brought to the POLB, they would be offloaded directly to SA Recycling in the POLB for processing/recycling. No trucking would be required.</p> <p>Port Hueneme Disposal Alternative to Standard Industries, Saticoy. As an alternative to transport to and recycling within the POLB, the materials barge could alternatively take the cut pipeline segments to Port Hueneme for onshore transit to Standard Industries (or equivalent) in Ventura County. From Port Hueneme, the most immediate route for hauling will be northward on Victoria Avenue and eastward onto Vineyard Avenue to access the industrial area of Saticoy and Standard Industries. Alternative routing could be northeast on Pleasant Valley Road and northward on Rice Avenue to avoid populated areas or peak traffic conditions. Based on a maximum single truck weight of 18 tons, it is estimated that approximately 141 round trips total to Standard Industries will be required to transport 2,538.68 tons of pipeline waste.</p> <p>The transportation corridor along Victoria Avenue includes populations that experience 40 to 67 percent vulnerability to overall environmental burden (meaning between 33 to 60 percent of census Tracts in California have a greater population vulnerability or overall environmental burdens). These scores can be primarily attributed to pesticide exposure, as Victoria Avenue travels through an active agricultural area, drinking water threats, and traffic. Due to the existing overall environmental burden to communities located along the proposed transportation route, the addition of additional transportation in this area would have the potential to create impacts that have the potential to affect disadvantaged communities within this area.</p> <p>However, as described in the Project EIR, mitigation could include avoidance of the Victoria Avenue corridor during peak traffic hours and instead utilizing an Alternative route heading northeast on Pleasant Valley Road and Rice Avenue, which are less populated areas. However, this alternative was not proposed as the primary routing due to these routes having a higher existing environmental burden as identified by OEHHA.</p>
RMA-5	<p>A Transportation Plan has been proposed as part of the Proposed Project and will be submitted to the City as part of its Grading and Demolition Plans.</p>

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RMA-6	The Remedial Act Plans (RAP) for the proposed Project are under the jurisdiction of the U.S. Environmental Protection Agency (EPA) for PCB-impacted soils and groundwater. The County of Santa Barbara Public Health Environmental Health Service Department for non-PCB-impacted soils and groundwater. A request to review and comment on the respective RAP's will need to be made to the EPA and County of Santa Barbara Environmental Health Services.
RMA-7	A Monarch Habitat Management Plan will be developed and implemented to protect monarch overwintering habitat and will include a completed assessment and associated consultations. The plan will include details describing which trees shall not be impacted by construction or tree trimming, a scheduling plan that would require the construction phase of the Project to begin before the arrival of monarchs (typically October 1) or after they depart (typically March 1); surveys by an approved biologist during the construction to verify habitat condition and roosting activity; if construction, tree removal, or tree trimming needs to occur within 500 feet of monarchs, the plan will be required to include prohibition of activities that create excessive dust, vibration, or physical disturbance; and suitable setbacks from the edge of the groves to preserve habitat quality.
RMA-8	The following measure has been proposed by the applicant. If work is scheduled to occur during the avian nesting season (February 1 to August 31), a qualified, City-approved biologist will conduct pre-construction bird surveys to avoid potential impacts to raptors, special status breeding birds, and other nesting birds protected by the Migratory Bird Treaty Act. The survey shall include approximately 500 feet around construction work areas or to the limits of the property lines if they are closer than 500 feet of these areas. The applicant shall delay construction work until (a) after August 31 or (b) until continued monitoring demonstrates that the nest is vacated and juveniles have fledged, or (c) a species-specific buffer zone recommended by a qualified biologist is established in accordance with applicable requirements and/or best management practices. Please see Mitigation Measure Bio.1c, Pre-construction Wildlife Surveys and Protection.
RMA-9	Based on current published data and onsite surveys, the Yuma bat has not been observed at the Project Site. Pre-activity surveys will be completed prior to demolition activities and will include both avian and bat species. As necessary, avoidance or relocation measures will be implemented in consultation with CDF&W and USFWS.
<b>Xerces Society</b>	
XS-1	<p>The Xerces Society mapping of the monitoring sites was not publicly available at the time of the Chevron application submittal. To our knowledge, the website's interactive map was only launched in 2024. Up until very recently, only tabular data with the Site Name "Oil &amp; Gas Buffer Zone, Carpinteria" was given for location information on their website. To our knowledge, Meade (2018) is not publicly available nor is the study contained in the EIR administrative record for which reliable analysis can be performed. Furthermore, clarification is requested on the extent of Xerces Society survey areas as the Meade report's apparent reference to "this site" is unclear. Citations must be scientifically sound and publicly available.</p> <p>Chevron has on record biological surveys performed with a special focus on the presence or absence of monarch butterflies at various locations throughout the Oil &amp; Gas Facility and the Buffer Zone, indicating the due diligence conducted to avoid impacts to the species. These surveys include (but are not limited to) December 14, 2020 (2 patrolling individuals, no aggregations observed), February 2, 2021 (no aggregations observed), February 15, 2021 (no aggregations observed), October 21, 2022 (no aggregations observed), and January 18, 2023 (individual monarchs, but no aggregations observed).</p> <p>The tree maintenance activity was a separate project that is not part of the scope of this Project, and therefore would not expect to be part of the record for this EIR. However, the aforementioned surveys, plus formal pre-activity surveys specifically for the tree maintenance activity were performed on March 3, 6, and 7, 2023, before that work was conducted.</p> <p>Monarch butterfly surveys during the overwintering season were not omitted, both inside and outside of mapped ESHA, as the comment asserts. Chevron protected monarch butterflies while implementing an activity of importance to human safety (mitigating tree hazards, evidenced by multiple tree failures) while Chevron was still actively operating and managing its property. A formal pre-activity biological survey was performed over three (3)</p>



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	<p>days on March 3, 6, and 7, 2023. Results were attached to the Tree Maintenance and Hazard Reduction Plan, labeled Biological Survey Report, indicating "Individual monarch butterflies were observed within and around the proposed work area, but no aggregations were observed." Recommendations in the survey report stated, "Should aggregations of monarch butterflies be observed within any trees due to be trimmed or removed, work should be stopped, and crews should contact a qualified biologist to provide conservation recommendations." Daily biological monitoring throughout the entire tree maintenance activity demonstrated that no aggregating monarch butterflies were affected. This included reinitiating a special focus on any monarch butterflies arriving in the area in October 2023. No aggregations were observed during the tree maintenance activities, but after work had ceased, aggregations were observed in the Buffer Zone in December 2023, totaling approximately 1,025 butterflies, according to Padre biologists. This work is not part of the EIR record because it is not part of the scope of the Project and was previously completed.</p> <p>According to the CDFW website, obtaining a permit "applies to handling monarchs, removing them from the wild, or otherwise taking them for scientific or propagation purposes, including captive rearing." Chevron has not, and will not, handle or remove monarch butterflies from the wild as part of the Project work. Separately, the Project will also implement avoidance and minimization measures that will prevent any need for a handling permit from CDFW.</p> <p>Prior tree maintenance work is not part of this Project scope which is why this information is not present in the EIR record. Additionally, no significant impacts to monarch aggregations occurred during this work as suggested in the comment. Safety concerns necessitated the prior maintenance of the trees referenced in the comment, which have historically been pruned and topped and are already showing signs of regenerative growth. Multiple tree failures were recorded in 2022 and 2023, and the risk for injury to workers onsite was significant. The timing of the work avoided both the peak monarch overwintering season and breeding bird season, each of different seasonal periods, to the extent feasible, and biological oversight was provided to monitor and initiate stop-work if monarch butterflies were observed in sufficient numbers to constitute an aggregation.</p> <p>The presence of monarchs was observed during these activities, but only in very low numbers, patrolling the area and not aggregating within the trees prescribed for maintenance or any nearby trees. Thus, the biological monitor did <u>not</u> document that the activity disturbed or disrupted overwintering monarch butterflies while removing roosting sites and habitat. None of the trees directly within the known roost sites were removed and instead were pruned according to the approved Tree Maintenance and Hazard Reduction Plan. In addition, special protection and avoidance measures were implemented at known roosting sites in the Buffer Zone, which provides an alternative, better-sheltered habitat and was observed by biological monitors to be occupied by aggregating monarch butterflies in December 2023.</p> <p>Tree maintenance activities were separately approved and conducted and not part of the Project that is addressed by the EIR. As previously stated, tree maintenance activities had separate utility and purpose and were conducted to address existing safety concerns that impacted the ongoing management of Chevron's private property. City Planning staff thoroughly reviewed and commented on the Tree Maintenance and Hazard Reduction Plan submitted by Chevron to comply with the City's General Plan and Local Coastal Plan Objectives and Guidelines while recognizing that the work was required for safety purposes.</p>
XS-2	<p>Based on a comparison of the current monarch aggregation data with the Draft EIR, the language and figures in the Draft EIR sufficiently address potentially significant impacts to the monarch butterfly. Figure 4.3-6, Special-Status Wildlife Species, presents the California Natural Diversity Database (CNDDB) records of overwintering monarch butterflies, showing the overwintering site extending from the Buffer Zone, east to Dump Road. Also, Section 4.3.4, describes the potential impacts by stating, "...Project-related heavy equipment activity would occur immediately adjacent to the aggregation area, which may disturb roosting Monarch butterflies and result in some mortality, if present during construction. Potential impacts to Monarch butterfly habitat from Project related activities including tree removal and trimming, and noise-related impacts are considered potentially significant".</p>

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	<p>All available information will be used for full implementation of mitigation for the Project. These data will also support and be incorporated into the development of the required Monarch Management Plan.</p> <p>The EIR already recognizes and adequately addresses the concern raised in the comment, including the need to mitigate dust impacts during the Project. Section 4.2.2.3, Dust Control, discusses mitigation measures in the Geology and Hazardous Materials sections which describe the County Air Pollution Control District regulations and requirements for dust control measures. Implementation of these measures will mitigate dust impacts on overwintering monarch butterflies. In addition, Mitigation Measures Bio-1c states: "A monarch management plan shall be prepared prior to any construction activities. The plan shall include details describing which trees shall not be impacted by construction or tree trimming, a scheduling plan that would require the construction phase of the Project to begin before the arrival of monarchs (typically October 1) or after they depart (typically March 1); surveys by an approved biologist during the construction to verify habitat condition and roosting activity; if construction, tree removal, or tree trimming needs to occur within 500 feet of monarchs, the plan needs to include <u>prohibition of activities that create excessive dust</u>, vibration, or physical disturbance; and suitable setbacks from the edge of the groves to preserve habitat quality." No new or different information is presented that suggests the EIR analysis or mitigation measures would not be sufficient to mitigate this potential impact.</p>
XS-3	<p>According to the City's Environmentally Sensitive Habitat overlay, currently mapped ESHA is limited to the Buffer Zone and Bluffs. With regard to the EIR, the definition of ESHA acknowledges that designations in the land use plan are not definitive and other areas that support sensitive resources, which could be easily disturbed or degraded by human activities would also be considered ESHA. The EIR considers all areas that support Monarchs and their habitat as sensitive and will be incorporated into the development of the required Monarch Management Plan to be used for implementation of mitigation for the Project.</p>
XS-4	<p>At the time of the Biological Study preparation in June 2021, the available data showed an absence or near absence of aggregations for several years; hence the use of the term "historically" (e.g., between 2018 and 2020, Xerces data indicate that as few as 3 to 46 butterflies were counted. To date, of the 13 out of 26 years that Xerces has collected data there, 8 of those years had less than 100 butterflies). Nonetheless, the term "historically" was not used to minimize the presence or potential presence of roosting monarch butterflies but rather to confirm the presence of these roosts regardless of this decline in numbers for several years and, therefore, their need for protection. We recognize the monarch butterfly rebound in recent years and the presence of more than one monarch roost, regardless of whether they are used or not used each year. EIR mitigation measures will protect these monarch roosts during the implementation of the Project, including the development and implementation of the required Monarch Management Plan.</p> <p>The term "historical" was deleted from the Monarch butterfly description in the EIR Table 4.4-3 Special Status Wildlife Species; and this term was not used in the discussion of Monarch butterflies in the EIR.</p>
XS-5	<p>Please see response to XS-4 above.</p>
XS-6	<p>We appreciate Xerces Society's clarification on where the Thanksgiving count is located at the Site. This paragraph does not state or imply that a statewide decline warrants the explanation that a site has become "historic." Rather, the text was intended to show that the decline at the Site is consistent with statewide observations of decline that warranted the listing and accurately reflected the conditions at the time of the Biological Study. We recognize the monarch butterfly rebound in recent years and the presence of more than one monarch roost, regardless of whether they are used or not used each year. All available information will be used for full implementation of mitigation for the Project. These data will also support and be incorporated into the development of the required Monarch Management Plan.</p>
XS-7	<p>The quoted statement was not intended to imply that monarch butterflies are expected to be permanently absent from the Site, but rather that the scientific data reported in the USFWS species status assessment (SSA) did not clearly apply to the Site and simply that those effects were likely more apparent in other locations along their migratory route of the western United States. The Biological Study intentionally makes no assertion as to why there was a decline in monarch butterfly numbers for several years at the Site because the mild climate (with little variation) at the time of the Biological Study's preparation did not appear to be affected by the habitat or non-</p>

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	habitat mediated climatic changes the SSA describes. We recognize the monarch butterfly rebound in recent years and the presence of more than one monarch roost, regardless of whether they are used or not used each year. All available information will be used for the full implementation of mitigation for the Project. These data will also support and be incorporated into the development of the required Monarch Management Plan.
XS-8	The term "historical" was not used to minimize the presence or potential presence of roosting monarch butterflies but rather to confirm the presence of these roosts regardless of this decline in numbers for several years and, therefore, their need for protection. We recognize the monarch butterfly rebound in recent years, including their use not only at the Buffer Zone but also at the Dump Road/Gate 1 entrance area, regardless of whether they are used or not used each year. This information is helpful, but as stated above, it does not change the Draft EIR findings of potentially significant impacts on monarch butterflies and the need to protect these roost sites. All available information will be used for the full implementation of mitigation for the Project. These data will also support and be incorporated into the development of the required Monarch Management Plan.
XS-9	See response to XS-8 above.
XS-10	See response to XS-8 above.
XS-11	<p>The 60 trees proposed for removal are at least 600 feet east or southeast of known monarch aggregation areas. These trees are located downwind of the aggregation areas, with prevailing winds predominantly originating from the north and west along the Carpinteria coast. Wind protection by these trees for known monarch roosts is considered negligible because they are downwind of the prevailing wind direction and are too far away from the sites to provide any meaningful wind protection.</p> <p>Based on the available biological surveys, the trees proposed for removal are not occupied by monarch aggregations. Comment does not provide any survey data suggesting otherwise.</p>
XS-12	No trees within known monarch butterfly aggregation areas, both within and outside the Buffer Zone, are proposed for removal. Due to their non-native origin and potential invasiveness, there are no plans to plant additional blue gum trees at the Site. Rather, at least 600 blue gum trees will remain at the Site during the implementation of the Project's tree protection measures.
XS-13	<p>The Tree Maintenance and Hazard Reduction Plan is not part of the proposed Project and was a safety related Project that had independent utility and purpose, and a review of issues related to that project is not properly within the purview of this EIR. The City completed the review and approval of the Plan as a separate activity, and that work has already been completed.</p> <p>Biological oversight was performed to determine that no direct impacts on roosting monarch butterflies occurred, as no butterflies had arrived in the area yet in sufficient aggregation numbers. In addition, the documentation of roosting monarch butterflies one month later in the Buffer Zone is an indication that the overall Site was still providing sufficient roosting habitat. The trees along Dump Road are being allowed to regrow and are showing rapid signs of recovery.</p>
XS-14	Please see responses above XS-1 to XS-13.
XS-15	Please see responses above XS-1 to XS-13.
XS-16	Please see responses above XS-1 to XS-13.
XS-17	Please see responses above XS-1 to XS-13.
XS-18	Please see responses above XS-1 to XS-13.
XS-19	The Biological Survey Report states, "Special focus paid to presence or absence of nesting passerine birds and raptors, monarch butterfly aggregations, and reptiles." Therefore, we believe monarch butterflies were given equal attention as nesting birds.
XS-20	March 6, 2023, is only one of many survey dates performed at that location. These survey dates include (but are not limited to) December 14, 2020 (2 patrolling individuals, no aggregations observed), February 2, 2021 (no aggregations observed), February 15, 2021 (no aggregations observed), October 21, 2022 (no aggregations observed), January 18, 2023 (individual monarchs, but no aggregations observed), and March 3, 6, and 7, 2023 (no aggregations observed). The survey information has been added to the EIR, as well as information from the

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XS-21	The contents of the Preliminary Restoration/Revegetation Plan apply solely to the Project related activities described in the EIR. Prior projects performed for safety purposes and with independent purpose and utility are not addressed by this EIR. Once the Project is finalized, a final Restoration/Revegetation Plan will be developed and then implemented upon Project completion.
XS-22	This section is intended specifically for tree protection. Protection of monarch butterfly trees is addressed separately in the Biological Resources section of the EIR (e.g., mitigation measure Bio-1c), which states: "A Monarch Management Plan shall be prepared prior to any construction activities. The plan shall include details describing which trees shall not be impacted by construction or tree trimming..."
XS-23	Chevron has proposed planting lemonade berry, a functionally similar shrub as toyon, along with the other native species listed in the Project's Restoration/Revegetation Plan upon completion of the Project and initiation of restoration activities. Separately, for Project-related activities, implementation of Mitigation Measures Bio-1c states: "A Monarch Management Plan shall be prepared prior to any construction activities. The plan shall include details describing which trees shall not be impacted by construction or tree trimming, a scheduling plan that would require the construction phase of the Project to begin before the arrival of monarchs (typically October 1) or after they depart (typically March 1); surveys by an approved biologist during the construction to verify habitat condition and roosting activity; if construction, tree removal, or tree trimming needs to occur within 500 feet of monarchs, the plan needs to include prohibition of activities that create excessive dust, vibration, or physical disturbance; and suitable setbacks from the edge of the groves to preserve habitat quality." Mitigation specific to prior completed activities that are not part of the Project is outside the scope of this EIR. Mitigation Measure Bio.1c has been substantially amended in response to the comment and now includes Monarch Butterfly Habitat Assessment, Monarch Butterfly Management Plan, and Monarch butterfly Take Avoidance, as suggested.
XS-24	This measure applies solely to the Project activities described in the EIR, not priorly completed tree maintenance activities that had separate utility and purpose. Once the Project is finalized, twice monthly surveys will be scheduled accordingly. Prior tree maintenance activities are not a part of the Project.
XS-25	There are no records of monarch butterflies roosting in the subject windrow of trees planned for removal, and these trees are therefore not considered monarch butterfly aggregation habitat, nor are they located in ESHA, as currently mapped by the City General and Land Use Plans. There is no evidence in the record to support a finding that these trees are within a monarch butterfly aggregation habitat area. The nearest known monarch roost is 800 feet west of these trees. Therefore, removal of these trees is considered a less than significant impact on monarch butterfly ESHA. Likewise, this windrow of trees is not included within the Xerces' Site ID 2800 boundaries.
XS-26	Concerns for monarch butterflies and their habitat have been raised by CDFW in a more recent letter dated January 31, 2024, commenting on the EIR, and will be addressed accordingly.
XS-27	For Project-related activities, implementation of Mitigation Measures Bio-1c states: "A Monarch Management Plan shall be prepared prior to any construction activities. The plan shall include: details describing which trees shall not be impacted by construction or tree trimming, a scheduling plan that would require the construction phase of the Project to begin before the arrival of monarchs (typically October 1) or after they depart (typically March 1); surveys by an approved biologist during the construction to verify habitat condition and roosting activity; if construction, tree removal, or tree trimming needs to occur within 500 feet of monarchs, the plan needs to include prohibition of activities that create excessive dust, vibration, or physical disturbance; and suitable setbacks from the edge of the groves to preserve habitat quality."  Implementation of restoration activities described in the Preliminary Restoration/Revegetation Plan includes planting native vegetation that will aid in supporting monarch butterfly habitat. Mitigation Measure Bio.1c has been substantially amended in response to the comment and now includes Monarch Butterfly Habitat Assessment, Monarch Butterfly Management Plan, and Monarch butterfly Take Avoidance, as suggested.
XS-28	The publicly available information for monarch overwintering habitat at the Site was used during the analysis of the Project along with Site specific surveys. Due diligence was performed for the environmental analysis of the

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	Project with respect to the presence of monarch butterflies. The tree maintenance was a prior project with a separate purpose and utility that was needed for safety reasons and is not part of the scope of this Project. The previously trimmed trees are currently in recovery, and suitable habitat nearby is still intact and protected. We recognize that monarch butterflies may roost at more than one location at the Project Site, and we will fully implement mitigation for the Project, including a Monarch Butterfly Habitat Management and Protection Plan, which will protect monarch aggregation areas throughout the Project.



DEIR CHEVRON COMMENT NOTES—SUPPLEMENTED 12/17/2023

- DA-1 Biological resources:
- Full removal of facilities alternative presents the potential for major long term disturbances of the seals for activities south of the RR tracks (pier parking area) because removal and capping of old wells and natural seeps could be a lengthy, noisy, and highly visible (by seals) process. These issues arise even if the project is limited to bluff and beach pipeline removal. Mitigations will need to be thorough and revised if insufficient to prevent disturbance, and work on specific removals/capping stopped altogether if seals are not returning on a daily basis after work.
- DA-2 Aesthetics/Night lighting:
- The pier and parking lots are currently lighted more than is necessary for safety. Light is visible in the sky at a great distance.
- DA-3 Any work that requires equipment/structures south of the RR tracks, such as onshore cranes or derricks to remove/cap old wells may cause aesthetic as well as biological (seals) impacts. The views along the ocean, beach, and bluffs are spectacular from the Rincon to the State Park, and interrupted by visual blight only by the pier, associated industry vehicles/movement, and vehicles/intermittent storage on the bluff edge on the parking lot. There should be mitigation requiring placement of necessary equipment/materials as far to the north as feasible and requiring unused parked equipment/vehicles etc to be moved north away from the coastal view shed.
- DA-4 Recreation:
- Dump Road access for public. Established by historic usage in Coastal Zone. Never stopped by Chevron/Venoco. Used by a great many pedestrians and bicyclists to access the Coastal Trail, Tar Pits Park, and the Bluffs Nature Preserve. There is no other nearby vertical access to the west or east, and no controlled RR crossing in the City east of Linden.
- DA-5 Signs on Dump Road re access were part of a sign and fence program application for a City permit that was appealed to the Coastal Commission. Applicant dropped the permit request but failed to remove several Dump Road signs. (No trespassing, no skateboards, no bikes.)
- DA-6 Heavy traffic and work may lead to Chevron desire to close Dump Road to the public. \*\* An alternative pedestrian path, perhaps through parcel(s) west of Dump Road should be a Recreation impact mitigation.

DA-7

Biological resources:

Harbor seals do not migrate. They live in a home range. They are very site specific, for unknown reasons, in choice of haulouts and rookeries. There are 13 haulouts on the Southern California coast (Doyle Hanon, NOAA/Fisheries studies (date)). Three are in Carpinteria—pier beach, rocks west of pier, and reef at the State Park. Point Mugu and China Beach on Santa Cruz Island would be the nearest haulout refuge for seals fleeing Carpinteria. Harbor seals need to rest on land about 50% of the time. (30-50% per one source) Harassment forcing the seals to move obviously causes loss of rest/energy needed for survival.

Harbor seal numbers are declining in Carpinteria. The reasons are unknown. However, human disturbances are a documented cause of loss of haulouts and rookeries. (See previous EIRs for Carpinteria projects. Goleta Beach with construction of Ward Memorial highway to UCSB and Ellwood are local examples.) Therefore, whatever the reasons for local population decline, it is extremely important that the seals be rigorously protected from additional human caused stressors to maximize the odds for rookery survival.

Pipeline removal from the blufftop to 300' or more offshore presents a significant potential for harbor seal disturbance. How long will it take to remove each? Work should start with the most distant pipelines to the west to observe possible disturbances and develop best practices for least disturbance before removal in the haulout/rookery area.

DA-8

Night lighting on the beach areas (4.1-7) could disturb night use of the beach by harbor seals. Harbor seal counts have often been higher during the night than day (Dana Seagars testimony to City PC and Council 1988-9; Venoco Paredon project EIR)

DA-9

Page 4.3-53 greatly overstates the loss of harbor seals from the haulout/rookery area during the months the City beach closure ordinance is not in effect. "Project activities associated with pipeline removal are not expected to cause incidental harassment" is a wildly optimistic statement—despite considerable adaptation to activities on the pier and near the beach, seals are present all year and harbor seal disturbances by oil industry work are observed year round. (Data from Sealwatch records, observations by S and D Allen. See tables below.)

While it is true harbor seals flee the beach when disturbed by beach users, in fact west side access to the beach is blocked by most tides at about 2 feet, and the east side by slightly higher tides. When this occurs the seals are typically seen onshore at any time of year. High surf can have the same effect, as can bad weather discouraging recreational use. In addition, as documented several times by marine biologists and previous studies (See EIRs for previous Chevron, Venoco, pipeline projects,) nighttime counts are often higher than daytime counts, and use of the haulout/rookery at night typically continues year round despite daytime disturbances. Assuming nighttime use occurs, however, is not sufficient protection against potential loss of the haulout. Harbor seals need to rest onshore near 50% of the time, and their timing is dependent on factors which may not permit full time adjustment to nighttime only beach use.

DA-10 Bio,1g. Insufficient. Summer/fall baseline numbers of seals should be documented for at least a year before work south of the RR tracks. This could be accomplished by random counts at daybreak and throughout the day, as well as sufficient nighttime infrared counts to assure reliability. Recruit Carpinteria Sealwatchers to assist. There should be a mitigation measure requiring baseline harbor seal counts year for at least one year prior to any nearshore and beach/bluff work. This is a means to further assure mitigations during work are effective.

DA-11 Another mitigation measure to assure effectiveness of mitigations is installation of a video camera on the pier or bluff to monitor the seals and beach activity. An observer cannot be expected to observe all activity all day— a camera will provide additional objective baseline and verification data.

DA-12 Data re.seals June through November when the City ordinance is not in effect:

Venoco Paredon Project proposed Final EIR: 4.3-22 “rookery is inhabited year-round, thus harbor seals will certainly be present at the project site.”

Allen/Doyle Hanan, NM Fisheries, September, 1994, 364 seals. 4.3-26

4.3-27: October, 2006, 482 seals. November, 2006, 452 seals.

Statement of Susan Allen—data from 36 counts September-November 2022, documented by photos and counts in emails to [dlnallen37@gmail.com](mailto:dlnallen37@gmail.com). Table below.

If needed, there are regular walkers of the trail above the Carpinteria Seal Sanctuary who could verify summer and fall daytime use of the haulout. (Contact names—. ) Preconstruction counts, as noted above, should be required for at least a year before pipeline removal and other work in the area south of the RR tracks.

Disturbances frequently occur as a result of blufftop and pier turnaround activity, in addition to beachwalkers etc. (Sealwatch disturbance reports in the Coastal View weekly/biweekly for many years.)

There should be estimates of the time necessary — assuming no interruptions—to complete each work effort south of the RR tracks. This would assist in evaluating whether further mitigation, or less, may be needed in mitigating potential long term impacts on the seals. Harbor seals learn— the duration, repetitiveness, and severity of disturbances, daily and over days, all affect how soon and how many seals return.

2022 September- November counts (dates and photos available) by Susan Allen:

75 107 104 98 100 118 26 6 130 123 104 124 92 125 94 93 40 78 103 66 139 86 76 82 85 115  
81 109 119 55 56 78 135 54 63 73 131 3 140 13—High:130, Average:89, Mean: 93.

Population highest counts 2004-2023. Adults/pups:

2004: 350/65.	2014: 350/80
2005: 291/82.	2015: 396/80
2006: 324/90.	2016: 298/40
2007: 382/68.	2017: 243/60
2008: 398/70.	2018: 249/64
2009: 410/85.	2019: 230/68
2010: 450/80.	2020: 200/70
2011: 400/100.	2021: 220/64
2012: 440/100.	2022: 208/55
2013—data?	2023: 161/60

Thirty + years of observation and data collection show that beach use—people and dogs— are the most numerous cause of disturbances. Oil industry activities on the near bluff/pier turnaround, beach, and pier, are the second most common cause of disturbances. Although local seals have acclimated greatly to activity on the pier, turnaround area, and bluff, noises and movements still do cause disturbances. Sealwatch log sheets and reports to the Coastal View document these causes of disturbances. Although the data covers five months of the year, and during the time the beach is not closed by ordinance there are probably more beach walker disturbances, oil industry caused disturbances can probably be assumed to continue at the same— or possibly greater—rate. (Greater perhaps because communications with the industry have indicated a tendency to disregard the importance of disturbances when pups are not present.)

- I HAVE NOT THOROUGHLY REVIEWED ALL THE LENGTHY APPENDICES AND SOME OF MY STATEMENTS REFERRING TO ABSENT OR INCOMPLETE INFORMATION MAY BE WRONG. MY APOLOGIES FOR ANY REPETITION
- SA-1 • Alternative, ES.5.2 full removal of facilities alternative should be given the highest consideration. The listed petroleum industry equipment, pipelines, etc. in this alternative should not be left in place. Carpinterians expect and should be given a full clean up. Given the history of taxpayers paying for Chevron's orphan pipeline that runs through the city taxpayers should not be responsible again for any cleanup of any oil industry remains in the future. While it is important to remove equipment south of the railroad tracks, special consideration must be given to the harbor seal population at all times. For that reason this alternative needs extensive delineation of how removals south of the railroad tracks would be done, and how long work is expected to last. Page ES-6
- SA-2 • Of the seven wells that exist on the site who is going to be responsible for maintenance, pumping, and final abandonment if they are not removed during this decommissioning process? Even if a private owner later seeks development of the site, it is likely that some fraction will be allocated for public trail or open space use— meaning any abandonment responsibility in those areas will fall on the public.
- SA-3 • Since the cleanup of the Marketing Terminal the area has been used for various types of storage with many items placed on soil as opposed to paved areas. Additional soils testing should be required given these uses of the area. Page 2-9 ,2-13
- SA-4 • Is demolition, cleanup and remediation of the Pitav Point odorant facility required? If not, who will be responsible? page 2-13.
- SA-5 • If the seven Wells, the pipeline bundle for platforms for Hazel and Hilda and the 36 inch diameter, corrugated metal vault are not removed during this cleanup when will they be removed? Who is responsible for this cleanup? And who is financially responsible for the cleanup of these items?
- SA-6 • Pier parking lot remediation....specific guidelines for revegetation should be called out. Page 2-20
- SA-7 • Please give specific measures to protect recreational users of public trails/Dump Road during removal of possible contaminated concrete and other such materials.
- SA-8 • On the north south pathway on the east side of the property that leads to the seal sanctuary overlook a small pile of asphalt/construction material is on the path. This should be identified and removed if necessary. Photo attached.
- SA-9 • Use of the marketing terminal should be prohibited during decommissioning to ensure noise and dust be kept to a minimum for nearby neighbors and businesses.
- SA-10 • Drainage that runs from the Carpinteria Bluffs Nature Preserve across the TeeTime property and through the Chevron plant daylighting at Dump Road should be mapped and studied. Loss of that drainage might cause issues in other areas.
- SA-11 • To prevent on going noise and disruption to the community items in section 2.6 should be consolidated and removed in the same time frame. This is particularly important when considering disruption to the seal colony, and the removal of pipelines.
- SA-12 • Trucks should enter and leave through the main gate. Use of gate two adds to noise level and dust in the nearby residential area. Use of Gate 2 for trucks could create noise



- SA-12 disturbance to the seals and g affect the enjoyment to users of the trail and Dump Road or any alternate north/south pedestrian route used during work.
- SA-13 • Parking for workers doing the decommissioning should be located north of the railroad tracks with minimal use of Dump Road. Nearby residents should not have to incur years of disruption to their quiet enjoyment during the many months/years of decommissioning. Parking south of the railroad should be limited to pier users only.
- SA-14 • **Safety-** Dump Road access must be maintained for pedestrians as it has for at least the last 40 years. Dump Road offers the only safe railroad crossing in the area. There are several choices for paths to facilitate this so pedestrians never lose this access during the time decommissioning takes. One choice of a path is directly adjacent to Dump Road, another is an entrance through the gate at nursery area (NW corner) down to the marketing terminal through the marketing terminal exit at the back gate or a new opening in the fence and through the buffer zone. (This would be a path similar to the one Chevron offered in 1980.)
- SA-15 • The area known as the “nursery” was required to be vegetated with natives but these were destroyed during the Thomas Fire/mudslide emergency staging. The area has not been properly restored. Page 2-10
- SA-16 • Pipelines: Onshore pipelines should be abandoned with materials that will not cause cave ins within the next century. Is the use of nitrogen a long lasting solution? Pipelines located on the beach furthest from the seals should be removed first to establish a baseline for disturbances before removing pipelines in the seal sanctuary. Pipelines to the east of the pier need to be identified and mapped. What exactly is contained in the cement encased bundle? I believe 2 oil/ gas pipelines, wastewater line and perhaps electrical lines. To the east of the bundle is a 10 inch oil/gas pipeline and to the west an electrical owned by another company. The map on 2-5 does not adequately identify all of the pipelines in the area.
- SA-17 • A detailed map, identifying all pipelines both north and south of the railroad tracks should be included in the document. Not noted in the document is a waterline that serves the pier and how it will be abandoned. The Pipeline to the east of the bundle, all pipelines in the bundle, and the electrical line should all be removed in concert for the least disruption to the seal colony.
- SA-18 • Chevron should be immediately required to identify any “maintenance” work being performed in equipment and grounds before decommissioning permits are issued. A baseline should be established to delineate between maintenance and decommissioning. Several recent activities have been called maintenance but may more properly be decommissioning activities: extensive tree trimming , the noise from loading large branches into dumpsters which may have disturbed the seals, work on the paved pipeline cap east of the upper parking lot which caused a disturbance to the seals, and a crane working on pipes within the plant have been noted. The recent tree trimming has been drastic, and perhaps overdone creating a loss of habitat for Raptors and monarch butterflies.
- SA-19 • Years ago a major piece of equipment was removed in the south east corner of the plant without permits from the city and the county . That piece of equipment should be identified in the area where it was sited and the ground tested, and properly cleaned if

- SA-19 necessary. (The equipment was silver in color, was associated with Gail or Grace, formaldehyde might have been involved, and might have been a part of the cancer causing footprint affecting the neighboring property to the east.) It was located near Area 6 see top photo page 2-17.
- SA-20 • The sandblast area should be re-tested. It was reported that 12 inches of soil was removed from that area but eye witness accounts only saw approximately 3 inches of soil being removed. Non natives in that area should be removed. Page 2-11.
- SA-21 • All wells need to be abandoned properly and should include all of the identified oil wells and all cathodic wells and any other wells that might be related to previous uses. Since cathodic wells can present hazards to groundwater all cathodic wells both current and historic should be identified and properly abandoned.

## SEALS

- SA-22 • Anytime work is done south of the railroad tracks two qualified marine biologist should be monitoring the seals. Anytime work is done north of the railroad tracks that would create loud noises or vibrations one qualified, marine biologist should be observing for any disturbance. Previous work done on the electrical line was done with two observers and set a standard of protection.
- SA-23 • If installation of the barrier in the early morning disturbs the seals use of the barrier should be re-examined. Chevron should not be given the ability/benefit to work in the area if installation of the barrier causes the seals to leave for the day.
- SA-24 • Several years ago, shiny metal straps were installed on the pier legs. Reflection from these straps is evident from a distance. What studies have been done to examine if seals might be bothered by this reflective quality? The use or effect of reflective materials, vehicle windshields , etc. and clothing should be considered as possible causes of seal disturbances during work.
- SA-25 • Approved seal watchers should be given access all year to parking at the site during any work south of the railroad tracks.
- During the seal watch window January 1 to May 31 sealwatchers should be given extra parking so they can easily access the site and perform their usual duties as well as monitor for activities that may be affecting the seals.
- SA-26 • If vehicles are to be parked in the turnaround area at the foot of the pier a delineated parking area should be marked with an assurance the vehicles cannot be seen from the beach used by the seals. (Well to the north away from the bluff edge.)
- SA-27 • The statement in section 4.3–53 regarding Harbor seals largely abandoning the area in the summer and fall is not accurate. For many years, the high count of seals was made on October 1 with 365 seals on the beach. This was an early morning count done by myself, Susan Allen, and later confirmed by Bob Hansen. I see seals on the beach throughout the year when they have not been disturbed by beach walkers; this happens frequently at moderately high tides when it's difficult to walk past the rocky headlands/points.

- SA-28 • Historic photos of the area at the foot of the pier should be studied so regrading can be done in a manner sensitive to the seal colony.
- SA-29 • Please address the potential effect of vibration in the seal haul out area. Consideration should be given to both the seals and large bird population that uses the sanctuary area.
- SA-30 • Decommissioning work will necessarily cause seal disturbances and prevent seals from coming onshore to rest— which is itself a “disturbance” under the MMPA law. As mitigation, to make up for the unavoidable disturbances despite the best measures during beach work, Chevron should post monitors at the east and west ends of the City beach closure area during low tide advising beach walkers of the Marine Mammal Protection Act and the likelihood that continuing into the area will cause a violation. (This is what Sealwatch low tide volunteers do five months of the year.) Ideally, the City could assist by increasing the beach closure duration during the months/years of decommissioning work.







**Nick Bobroff**

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**From:** Chumash People <ksen\_sku\_mu@yahoo.com>  
**Sent:** Wednesday, December 06, 2023 5:11 PM  
**To:** Nick Bobroff  
**Subject:** Chevron Gas an Oil DEIR - Cultural Section.

**\*\*EXTERNAL EMAIL\*\***

**CAUTION:** This email originated from outside the City of Carpinteria. DO NOT OPEN attachments or CLICK on links unless you are sure they are safe. Remember, reputable vendors, banks, etc. will not ask you to disclose passwords or other sensitive information.

Hello My name is frank Arredondo.

I am listed on the County of Santa Barbara Approved Native American consultants list. I am also listed with the Native American Heritage Commission (NAHC) Most Likely Descendants List (MLD) for the Chumash territory. I have gone to school for my Masters degree in Archaeology and BA degree in Native American Studies and Numerous certifications in Native American Law and CEQA, NEPA, Nagpra. I have been working in Cultural Resources since 2006 and I am the Chair of the Ksen 'Sku' Mu'.

During the Soil studies conducted at the Chevron Oil plant from 2016 to 2022 I was the Primary Native American Monitor. I over saw all the ground disturbances of this location and have read all the site records and reports associated with this location. I am intimately aware of all the resources on this site.

FA-1

I am letting you know that the DEIR you just release is in violation of the ARPA of 1979. The Cultural section contains archaeologically sensitive information only found in site record reports, it includes location information which is protected under the law. ( A few other violations of sensitive information has also been broken I can provide the citation of the laws later)

I am reaching out to you to find out if you were aware of this issue and I would also ask that you have this document removed from public view at this time till the section can be edited or before other agencies find out the error that has been made. My years of experience have afforded me the ability to recognize issues like these and how they apply to the law. I hope you will hear these concerns and take them seriously.

I await your reply.

Thanks, frank

*Best wishes, Frank Arredondo  
Ksen~Sku~Mu - Chumash  
Chumash MLD- Tribal Chair  
Po Box 161  
Santa Barbara, Ca 93102*



Email [Ksen\\_Sku\\_Mu@yahoo.com](mailto:Ksen_Sku_Mu@yahoo.com)

**Nick Bobroff**

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**From:** Valerie Bentz <valeriebentz@gmail.com>  
**Sent:** Sunday, January 21, 2024 12:54 PM  
**To:** Nick Bobroff  
**Subject:** Comments about the EIR for Decommissioning Chevron structure in Carpinteria: Danger to Harbor Seal Colony

**\*\*EXTERNAL EMAIL\*\***

**CAUTION:** This email originated from outside the City of Carpinteria. DO NOT OPEN attachments or CLICK on links unless you are sure they are safe. Remember, reputable vendors, banks, etc. will not ask you to disclose passwords or other sensitive information.

Dear Nick,

Thank you for your work on the Decommissioning of Chevron in Carpinteria and for making the EIR report available. My comment is below.

Sincerely,

Valerie Bentz Ph.D.  
Carpinteria Resident

VB-1

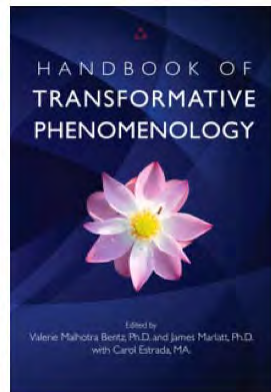
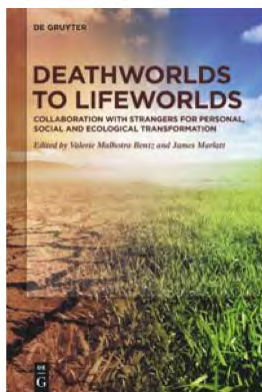
The significance threat as portrayed in the Draft Environmental Impact Report for Chevron Decommissioning project does not adequately address the impact the project is likely to have on the Carpinteria Harbor Seal Rockery. (Section 4.3.53) Although the project is not supposed to take place during the birthing season when the beach is officially closed even to pedestrians, the Harbor seals depend upon being able to gather on land at their rockery site, daily, year round. They need to rest, sun and recuperate from their long hours in the sea. There are no other places for them to rest on shore. Their numbers have been declining over the past years. (See report from City of Carpinteria Seal Advisory Committee). The City was advised to extend protection of their rockery area year round. The Harbor Seal Rockery is one of four remaining along the entire California Coast. The noise levels, vibration levels and visual disturbances of the project will be significant to the Carpinteria seals. Indeed the current proposed project may mean the

VB-1 loss of this treasure for Carpinteria and the thousands who visit the seal rockery.



CHANGE THE WORLD. START WITH YOURS.

Valerie Malhotra Bentz, PhD, MSSW  
Professor | School of Leadership Studies  
Fielding Graduate University  
5367 Ogan Rd. | Carpinteria, CA 93013  
office 805-395-0709  
vbentz@fielding.edu



Link to webpage:

<https://www.degruyter.com/document/doi/10.1515/9783110691818/html>

Link to FUP webpage:

<https://www.fielding.edu/Fielding-Portfolio/handbook-of-transformative-phenomenology/>

See more at [valeriebentz.com](http://valeriebentz.com)

Transforming Consciousness for a Livable World

New book release!

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Fielding folks access Valerie's Research Center here:

<https://learning.fielding.edu/course/view.php?id=4731>

See more at [valeriebentz.com](http://valeriebentz.com)

Transforming Consciousness for a Livable World

January 31, 2024

Nick Bobroff  
Community Development Director  
City of Carpinteria  
5775 Carpinteria Avenue  
Carpinteria, CA 93103

Re: Draft Environmental Impact Report Chevron Carpinteria Oil and Gas Facility  
Decommissioning Project

Dear Mr. Bobroff:

California Coastal Commission (Commission) staff appreciate the opportunity to review and provide comments on the draft Environmental Impact Report (EIR) for the Chevron Carpinteria Oil and Gas Facility Decommissioning Project (project). The project would demolish and remove the Facility, including the onshore portions of the Facility (Onshore Facility), the State Waters Offshore Pipelines and complete remediation of impacted soils and groundwater at the Facility.

More specifically, project components would include:

- Idling and removal of existing surface and subsurface equipment, piping, pipeline segments and structures associated with the facility, including removal of concrete foundations, asphalt, oil spray, and road base within the Facility;
- Pig and flush pipelines in preparation for removal of State Waters Offshore Pipelines out to the 3 nautical mile state waters limit;
- Excavation and remediation of any impacted soils within the Facility and restoration of the affected portions of the project site in accordance with the agency approved Remedial Action Plan;
- Complete removal of State Waters Offshore Pipelines;
- Recycling and/or disposal of all materials removed from the Project site.

Facilities not included as part of the project would include:

- Sales Gas Facilities in the Peninsula Area;
- Pitas Point Producer Facility (End of Marketing Terminal site);
- Historic Onsite Idle Wells consisting of legacy wells currently managed by the California Department of Conservation Geologic Energy Management Division (CalGEM);
- Gas Pipeline from Platform Habitat;
- Platform Hazel and Heidi offshore;
- Power Cable from Platforms Hogan and Houchin;

- Naturally occurring tar seeps;
- Former burn dump.

## Jurisdiction

The entire project is within the Coastal Zone; therefore, a Coastal Development Permit (CDP) to implement the final project will ultimately be required. The Commission certified a Local Coastal Program (LCP) for the City of Carpinteria (City) and as such, the City Planning Division may process a CDP for development within its LCP jurisdiction, and the LCP would be the standard of review. The portion of the project located offshore below the Mean High Tide Line (MHTL) is within the Coastal Commission's retained jurisdiction and would need a CDP processed by the Coastal Commission, with Chapter Three of the Coastal Act as the standard of review. However, as the project spans both jurisdictions, Coastal Act Section 30601.3 authorizes the Coastal Commission to process a consolidated CDP application when the applicant, the local government(s), and the Coastal Commission all agree to do so. For consolidated CDP applications, the Coastal Act is the standard of review for the entire project, with the relevant LCP providing guidance.

## Full Removal Alternative / Environmentally Superior Alternative

Section 5.3 of the draft EIR includes a description of alternatives and Section 5.3.2 describes the alternative which would include full removal of all the facilities:

*Those facilities would include the plugging and abandonment of the seven wells that exist within the Project Site; removal and remediation of naturally occurring petroleum hydrocarbons which include a number of seep areas within the Buffer Zone Area, MSRC Area, Main Plant Area, and Pier Parking Lot Area; and removal of former Platforms Hazel and Hilda pipeline bundle, which include two, 8- inch diameter and one, 6-inch diameter abandoned pipelines that come from offshore, across the beach near the western extent of the Project area and a 36-inch diameter corrugated metal vault located at the edge of the bluffs.*

CCC-1

The draft EIR goes on to state that plugging and abandonment of the wells has not been required by CalGEM at this point and removal of the pipelines from Platforms Hazel and Hilda was not required by the California State Lands Commission who was the lead agency for the removal of the Platforms in 1997. The section does not include any discussion on the sales gas facilities in the Peninsula Area, the Pitas Point Producer Facility, the gas pipeline from platform Habitat, the power cable from Platforms Hogan and Houchin, the naturally occurring tar seeps, and the former burn dump site. Commission staff would note that since the tar seeps are naturally-occurring they would not be considered an impact under the California Environmentally Quality Act (CEQA) and leaving the tar seeps undisturbed in their natural state would not be considered inconsistent with the Chapter Three policies of the Coastal Act.

The section goes on to state that this alternative would result in a long-term reduction of the significant and unavoidable impact of oil spills and the long term reduction of the



CCC-1

potential biological and water resources impacts as a result of fully abandoning the facilities. Removal of pipelines through the bluffs would prevent future erosion impacts and would address pipelines that were not previously removed would not become a burden on the public due to the future need for removal. The draft EIR identifies this alternative as the environmentally superior alternative and states that this alternative has been chosen for further evaluation. However, the draft EIR does not elaborate on what this evaluation would entail. As such, Commission staff recommends that the final EIR more thoroughly discuss this alternative, including all facilities minus the naturally-occurring tar seeps, and elaborate on what the consideration and evaluation of this alternative would entail.

### **Environmentally Sensitive Habitat Areas (ESHA)**

CCC-2

#### Defining and Identifying ESHA

Although Section 4.3 of the draft EIR includes a discussion of ESHA with Figure 4.3-4 referencing the ESHA map from the certified Carpinteria Coastal Area Plan (CAP), and the draft EIR also includes a technical appendix with site-specific biological studies, it is difficult to understand what ESHA could be onsite and how ESHA could be impacted by project activities. For example, Section 30107.5 of the Coastal Act, incorporated into the City's CAP via Implementation Policy 5, defines ESHA as:

*"Environmentally sensitive area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.*

Page 4.3-14 of the draft EIR includes a definition of ESHA, however, the definition provided in the draft EIR is not wholly consistent with Section 30107.5. Additionally, neither the draft EIR nor the technical appendices relate the results of the site-specific mapping of species at the project site to the definition of ESHA under Section 30107.5 in order to identify ESHA within the project site.

CCC-3

#### Impacts to ESHA and Sensitive Species

Considering the large scope of the project, Commission staff recommend including a figure depicting an overlay of all project activities (mobilization, staging, stockpiling, decommissioning, etc.) in relation to mapped ESHA to help understand how project activities could impact ESHA and sensitive species (including sensitive marine resources like the kelp beds and marine mammal rookery identified in the draft EIR). This mapping would also help quantify the total impacts to ESHA that would occur as a result of the project.

Mitigation Measure (MM) Bio.1b includes a Habitat Restoration/Revegetation Plan which would restore disturbed areas following the completion of project activities. Subsection 2 of MM Bio-1b would include a quantification of disturbance acreage and mitigation requirements. The subsection states that a minimum of 1:1 mitigation ratio will be required to restore temporarily disturbed areas but does not include any requirements for mitigation of permanently disturbed areas.

CCC-3 Any landform alteration for staging, laydown, or construction that includes excavation, grading or placement of materials (compacted fill, road base, rip rap, causeways, etc.) within a sensitive habitat would be considered a permanent impact, regardless of the length of time that those areas are used for construction. For example, although certain activities at the site may last less than a year, any impacts from that project that included landform alteration or construction activities within a sensitive habitat would be considered a permanent impact and would require corresponding mitigation. Although a mitigation ratio of 1:1 would be appropriate for any temporary impacts, any permanent impacts must be mitigated at a minimum ratio of 3:1. Additionally, the draft EIR should analyze any alternatives to project activities that would impact ESHA that could avoid or minimize impacts to ESHA, instead of directly looking to mitigation. For example, the draft EIR states that pipe removal activities within the bluff would require use of an excavator to dig a trench and uncover buried segments of pipeline, which could accelerate bluff retreat in the area. The draft EIR should consider and analyze alternatives to pipeline removal within the bluff face to avoid or minimize adverse impacts.

CCC-4 Restoration  
Section 4.3.4 of the draft EIR states that the applicant has prepared a preliminary Habitat Restoration/Revegetation Plan that would revegetate disturbed areas within the operational areas to the extent required to support future land use designations, at a minimum. Areas that are not expected to be used in the future would be restored with native vegetation appropriate to future land use. The draft EIR does not discuss what the future land use designations could be. Since the future land uses at the site are unknown or are speculative, Commission staff suggests that the Habitat Restoration/Revegetation Plan focus solely on revegetating any disturbed areas in a manner that would provide the greatest ecological benefit.

CCC-5 Pre-Construction Tree Maintenance Activities  
Commission staff recently learned that Chevron may have performed tree maintenance activities at the site of the proposed project in 2023, including removal of portions of the canopy and lateral branches of several trees. These tree maintenance activities may have included documented monarch butterfly (*Danaus plexippus*) aggregation trees, which pursuant to the certified LCP, can constitute ESHA. It is not clear whether these activities were conducted in anticipation of the proposed project and whether they were permitted. Commission staff suggests that the EIR include detailed discussion on the tree maintenance activities and clarify their relation to the proposed project. If those activities were conducted as part of the proposed project, they should be included in the project description and analyzed.

**Wetlands**

CCC-6 Based on the survey results in the Coastal Wetlands Delineation Report it appears that approximately 0.27 acres of Coastal Act wetlands would be impacted by the project. It is unclear from the draft EIR whether the impacts to wetlands would be considered temporary or permanent. MM Bio.3c would require the development of a Coastal Wetlands Mitigation and Monitoring Plan to be developed by the applicant. Pursuant to that plan adverse impacts to wetlands would be mitigated at ratio of 1:1.

CCC-6

Similar to Commission staff's comments regarding ESHA, the draft EIR should more thoroughly discuss the degree of impacts to coastal wetlands to help determine whether impacts would be considered temporary or permanent. Coastal Act Section 30233, as incorporated into the City's CAP, requires (in part) that adverse impacts to wetlands may be allowed under certain limited circumstances when there is no feasible less environmentally damaging alternative. As such, the draft EIR must also include an analysis of alternatives to the proposed project activities that would adversely impact wetlands.

Lastly, the proposed mitigation ratio of 1:1 for adverse impacts to wetlands is insufficient. The Commission has historically required a ratio of 4:1 for adverse impacts to wetlands and this requirement has been applied to other projects within the City of Carpinteria, including those under the sole CDP jurisdiction of the City. Therefore, MM Bio.3c should be modified to require a ratio of 4:1.

CCC-7

### **Pigging and Flushing Pipelines**

Prior to decommissioning activities, pipeline segments need to be pigged and flushed to ensure they are hydrocarbon free. However, there is little detail in the draft EIR about how pigging and flushing would be accomplished, the potential impacts associated with pigging and flushing operations, and what measures or best practices could be implemented to avoid or minimize potential impacts from pigging and flushing pipelines. Several questions remain surrounding the pigging and flushing of pipelines. For example, it is unclear how the sender and receiver sites for the pigs will be set up for segments of pipeline that terminate offshore; it is unclear if pigging and flushing of pipelines will require additional excavation on the seafloor, beach, and bluffs to establish sender or receiver sites for buried sections of pipe; it is unclear how many linear feet of pipeline will need to be pigged and flushed, and how much recovered flush water is anticipated to be handled or treated. Please provide this information. Without it, it is difficult to understand potential impacts of pigging and flushing operations and apply appropriate mitigation measures to avoid and minimize them.

CCC-8

### **Ruptured Pipelines**

Section 2.0 of the draft EIR states that several of the offshore pipelines associated with the former marine terminal appear to have structural damage or are already open to seawater. The paragraph concludes by stating that pigging and flushing operations would be limited to only those segments of the pipeline that remain intact. For clarity, these segments should be identified and mapped for inclusion in the final EIR. In addition, the draft EIR does not include any discussion on the history of these pipelines, when they were last operational, what they contained, how they might have been ruptured, and when. Please provide this information. Without it, it is impossible to know whether there is an appropriate nexus to include these ruptures and exposed pipelines as part of the EIR. Additionally, this information will be necessary to analyze any adverse impacts that may result from removal of the pipelines.

CCC-9

### **Pipelines to be Abandoned in Place**

The draft EIR states that pipelines crossing the Former Sand Blast Area (FSBA) and Peninsula Area Pipelines (PAP) will be abandoned in place. Additional information is needed to evaluate pipeline abandonment versus complete removal in these two areas. The draft EIR should describe the potential impacts with removal of these pipeline segments as well as any removal alternatives or techniques that may be implemented in these two areas to avoid or reduce the identified impacts.

CCC-10

### **Hazardous Materials and Risk of Upset**

Section 4.7.1.3 states that that an “Oil Spill Response and Contingency Plan” will be implemented during all Project activities. However, the draft EIR notes that this Plan has not been drafted and details of response activities have not been provided at this time. Rather, HAZ.2a requires the applicant to prepare a plan detailing performance measures to reduce the potential for releases to the environment, and to ensure that the shortest scheduling associated with the Project in the marine environment is achieved. As written, HAZ.2a is not sufficient to ensure that oil spills are prevented and adequately contained and cleaned up in the event of an accidental spill. Moreover, ensuring the shortest scheduling times for work in the marine environment is not an appropriate objective for an oil spill response and contingency plan. It is noted that most of the performance measures spelled out in HAZ.2a are directly related to the configuration of the offshore equipment barge.

Table 4.9.1. – Prelim Policy Consistency Analysis (pg. 4.9-9 of the draft EIR) states that the facility’s existing Oil Spill Contingency and Response Plan (OSCRP) would be adhered to during all work activities. The OSCRCP includes preventative measures, as well as procedures to be followed in the event of a spill, including hydraulic fluids as well as fuel and other types of oil spills onshore. Most notably, it is not clear if the existing OSCRCP addresses offshore spills. In addition, Table 4.9.1 states the Applicant maintains an agreement with MSRC (spill response co-op) for spill response support services. If the existing OSCRCP is to be relied on for this project, Commission staff recommends that the OSCRCP be included as an Appendix to the EIR.

Commission staff recognizes that many of the performance measures included in HAZ.2a. and in the facility’s existing OSCRCP are important and should be included in a project specific oil spill prevention and response plan. However, it should be highlighted that additional detail will be needed and any discrepancies and/or missing components of the two documents should be clarified and included in the project specific Oil Spill Response and Contingency Plan.

CCC-11

### **Access and Recreation**

Section 4.13.6 states that project activities have the potential for a short-term interruption of trail use within the Carpinteria Bluffs and concludes that since this interruption would be short-term the project would have a less than significant impact on access and recreation. However, the draft EIR does not include any information on the usage of this trail or how

CCC-11

interruptions to access and recreation as a result of the project were considered to be short-term. The draft EIR should more thoroughly discuss usage of the trails within Carpinteria Bluffs and how specifically project activities could impact access and recreation. Commission staff would also note that Article Two of Chapter Three of the Coastal Act includes policies that generally require development to not interfere with the public's right of access, except in limited circumstances. Should the project need to interfere with public access pursuant to those policies Commission staff recommend the EIR include a mitigation measure requiring development of a plan to maintain maximum public access during project activities.

CCC-12

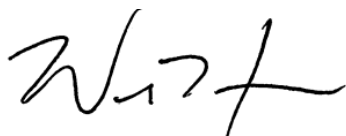
### **Level of Remediation**

The draft EIR states that the objective of the project is to remediate the environmental impacts of the legacy oil and gas facilities on the project site and that the project aims to achieve the most stringent clean up levels. The draft EIR states that the site would be remediated to an unrestricted land use standard to facilitate reuse of the property acceptable under the City's Draft General Plan/Local Coastal Plan update. This is anticipated to be Planned Unit Development and Open Space/Recreation. Since that update is still in draft form and has not yet been reviewed and approved by the Coastal Commission, the draft EIR should not identify a future anticipated land use as a target for remediation. However, Commission staff support the draft EIR's objective to achieve the most stringent clean up levels possible.

Thank you for your consideration of these comments. We look forward to coordinating with the City on the development of the project and the CDP process.

Please contact Wesley Horn at [Wesley.Horn@coastal.ca.gov](mailto:Wesley.Horn@coastal.ca.gov) if you have any questions regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'W. Horn', with a stylized flourish at the end.

Wesley Horn  
Environmental Scientist





California  
**Department of Conservation**  
Geologic Energy Management Division

Gavin Newsom, Governor  
David Shabazian, Director  
715 P Street, MS 1803  
Sacramento, CA. 95814  
T: (916) 445-5986

02/01/2024

City: Carpinteria - City of Carpinteria

Nick Bobroff

5775 Carpinteria Ave, Carpinteria , CA 93013, USA

nickb@carpinteriaca.gov

Construction Site Well Review (CSWR) ID: 1012963

Assessor Parcel Number(s): 001170022, 001170014, 001170023, 001170004, 001170021, 001170005

Property Owner(s): Rebecca Trujillo

Project Location Address: 5619 Carpinteria avenue Carpinteria, California 93013

Project Title: Decommissioning and Remediation of the Chevron Carpinteria Oil and Gas Processing Facility

Public Resources Code (PRC) § 3208.1 establishes well reabandonment responsibility when a previously plugged and abandoned well will be impacted by planned property development or construction activities. Local permitting agencies, property owners, and/or developers should be aware of, and fully understand, that significant and potentially dangerous issues may be associated with development near oil, gas, and geothermal wells.

#### CalGEM-1

The California Geologic Energy Management Division (CalGEM) has received and reviewed the above referenced project dated 1/30/2024. To assist local permitting agencies, property owners, and developers in making wise land use decisions regarding potential development near oil, gas, or geothermal wells, the Division provides the following well evaluation.

The project is located in Santa Barbara County, within the boundaries of the following fields:

Any Field

This project is not expected to impede access to any wells. Caution should be taken during

decommissioning activities not to impact or alter any well casings.

NOTE: CalGEM has no well record or logs on file for API 0428304313.

Our records indicate there are 6 known oil or gas wells located within the project boundary as identified in the application.

- Number of wells Not Abandoned to Current Division Requirements as Prescribed by Law and Projected to Be Built Over or Have Future Access Impeded by this project: 0
- Number of wells Not Abandoned to Current Division Requirements as Prescribed by Law and Not Projected to Be Built Over or Have Future Access Impeded by this project: 6
- Number of wells Abandoned to Current Division Requirements as Prescribed by Law and Projected to Be Built Over or Have Future Access Impeded by this project: 0
- Number of wells Abandoned to Current Division Requirements as Prescribed by Law and Not Projected to Be Built Over or Have Future Access Impeded by this project: 0

The Division categorically advises against building over, or in any way impeding access to, oil, gas, or geothermal wells. Impeding access to a well could result in the need to remove any structure or obstacle that prevents or impedes access including, but not limited to, buildings, housing, fencing, landscaping, trees, pools, patios, sidewalks, roadways, and decking. Maintaining sufficient access is considered the ability for a well servicing unit and associated necessary equipment to reach a well from a public street or access way, solely over the parcel on which the well is located. A well servicing unit, and any necessary equipment, should be able to pass unimpeded along and over the route, and should be able to access the well without disturbing the integrity of surrounding infrastructure.

There are no guarantees a well abandoned in compliance with current Division requirements as prescribed by law will not start leaking in the future. It always remains a possibility that any well may start to leak oil, gas, and/or water after abandonment, no matter how thoroughly the well was plugged and abandoned. The Division acknowledges wells plugged and abandoned to the most current Division requirements as prescribed by law have a lower probability of leaking in the future, however there is no guarantees that such abandonments will not leak.

The Division advises that all wells identified on the development parcel prior to, or during, development activities be tested for liquid and gas leakage. Surveyed locations should be provided to the Division in Latitude and Longitude, NAD 83 decimal format. The Division expects any wells found leaking to be reported to it immediately.



Failure to plug and reabandon the well may result in enforcement action, including an order to perform reabandonment well work, pursuant to PRC § 3208.1, and 3224.

PRC § 3208.1 give the Division the authority to order or permit the re-abandonment of any well where it has reason to question the integrity of the previous abandonment, or if the well is not accessible or visible. Responsibility for re-abandonment costs may be affected by the choices made by the local permitting agency, property owner, and/or developer in considering the general advice set forth in this letter. The PRC continues to define the person or entity responsible for reabandonment as:

1. The property owner - If the well was plugged and abandoned in conformance with Division requirements at the time of abandonment, and in its current condition does not pose an immediate danger to life, health, and property, but requires additional work solely because the owner of the property on which the well is located proposes construction on the property that would prevent or impede access to the well for purposes of remedying a currently perceived future problem, then the owner of the property on which the well is located shall obtain all rights necessary to reabandon the well and be responsible for the reabandonment.
2. The person or entity causing construction over or near the well - If the well was plugged and abandoned in conformance with Division requirements at the time of plugging and abandonment, and the property owner, developer, or local agency permitting the construction failed either to obtain an opinion from the supervisor or district deputy as to whether the previously abandoned well is required to be reabandoned, or to follow the advice of the supervisor or district deputy not to undertake the construction, then the person or entity causing the construction over or near the well shall obtain all rights necessary to reabandon the well and be responsible for the reabandonment.
3. The party or parties responsible for disturbing the integrity of the abandonment - If the well was plugged and abandoned in conformance with Division requirements at the time of plugging and abandonment, and after that time someone other than the operator or an affiliate of the operator disturbed the integrity of the abandonment in the course of developing the property, then the party or parties responsible for disturbing the integrity of the abandonment shall be responsible for the reabandonment.

No well work may be performed on any oil, gas, or geothermal well without written approval from the Division. Well work requiring approval includes, but is not limited to, mitigating leaking gas or other fluids from abandoned wells, modifications to well casings, and/or any other re-abandonment work. The Division also regulates the top of a plugged and abandoned well's minimum and maximum depth below final grade. CCR §1723.5 states well casings shall be cut off at least 5 feet but no more than 10 feet below grade. If any well needs to be lowered or raised (i.e. casing cut down or casing riser added) to meet this regulation, a permit from the Division is required before work can start.

The Division makes the following additional recommendations to the local permitting agency, property owner, and developer:

CalGEM-2

1. To ensure that present and future property owners are aware of (a) the existence of all wells located on the property, and (b) potentially significant issues associated with any improvements near oil or gas wells, the Division recommends that information regarding the above identified well(s), and any other pertinent information obtained after the issuance of this letter, be communicated to the appropriate county recorder for inclusion in the title information of the subject real property.

CalGEM-3


2. The Division recommends that any soil containing hydrocarbons be disposed of in accordance with local, state, and federal laws. Please notify the appropriate authorities if soil containing significant amounts of hydrocarbons is discovered during development.

As indicated in PRC § 3106, the Division has statutory authority over the drilling, operation, maintenance, and abandonment of oil, gas, and geothermal wells, and attendant facilities, to prevent, as far as possible, damage to life, health, property, and natural resources; damage to underground oil, gas, and geothermal deposits; and damage to underground and surface waters suitable for irrigation or domestic purposes. In addition to the Division's authority to order work on wells pursuant to PRC §§ 3208.1 and 3224, it has authority to issue civil and criminal penalties under PRC §§ 3236, 3236.5, and 3359 for violations within the Division's jurisdictional authority. The Division does not regulate grading, excavations, or other land use issues.

If during development activities, any wells are encountered that were not part of this review, the property owner is expected to immediately notify the Division's construction site well review engineer in the Northern district office, and file for Division review an amended site plan with well casing diagrams. The District office will send a follow-up well evaluation letter to the property owner and local permitting agency.

Should you have any questions, please contact me at (805) 937-7246 or via email at [Bruce.Weihhs@conservation.ca.gov](mailto:Bruce.Weihhs@conservation.ca.gov).

Sincerely,

  
Bruce Weihhs

Senior Oil & Gas Engineer (Supervisor)

cc: Blake Foreshee - Submitter

cc: Nick Bobroff - Plan Checker

cc: Rebecca Trujillo - Property Owner

**Wells Not Abandoned to Current Division Requirements as Prescribed by Law & Not Projected  
to be Built Over or Have Future Access Impeded**

The wells listed below are not abandoned to current Division requirements as prescribed by law, and based upon information provided, are not projected to be built over or have future access impeded.

API	Well Designation	Operator	Well Evaluations
0408304644	P. C. Higgins 1	P. C. Higgins	The project owner notes this well as Idle with a metal well vault cover. There are no logs or well records on file with CalGEM.
0408304313	Carpinteria Community 1	Thornbury Drilling Co.	Condition of the well is unknown. CalGEM issued a permit for plugging and abandonment in 2012, however no work history of the abandonment was submitted. The project owner notes this well as Idle with concrete, wood, and plastic tarp cover.
0408304297	Catlin-Fletcher 1	D. S. Fletcher	Surface plug does not meet requirements of CCR § 1723.5. Hydrocarbon zone plug does not meet requirements of CCR § 1723.1
0408304315	Community 3	Thornbury Drilling Co.	Surface plug does not meet requirements of CCR § 1723.5. Hydrocarbon zone plug does not meet requirements of CCR § 1723.1
0408304327	Well No. 1	James F. Nugent Oil Co.	Surface plug does not meet requirements of



			CCR § 1723.5. Junk Plug does not meet requirements of CCR § 1723.(f) Hydrocarbon zone plug does not meet requirements of CCR § 1723.1
0408304328	Well No. 2	James F. Nugent Oil Co.	Surface plug does not meet requirements of CCR § 1723.5. Hydrocarbon zone plug does not meet requirements of CCR § 1723.1



State of California – Natural Resources Agency  
 DEPARTMENT OF FISH AND WILDLIFE  
 South Coast Region  
 3883 Ruffin Road  
 San Diego, CA 92123  
 (858) 467-4201  
[wildlife.ca.gov](http://wildlife.ca.gov)

GAVIN NEWSOM, Governor  
 CHARLTON H. BONHAM, Director



January 31, 2024

Nick Bobroff  
 City of Carpinteria  
 5775 Carpinteria Avenue  
 Carpinteria, CA 93013  
[nickb@carpinteriaca.gov](mailto:nickb@carpinteriaca.gov)

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE CHEVRON  
 CARPINTERIA OIL & GAS FACILITY DECOMMISSIONING PROJECT,  
 SCH #2022080026**

Dear Nick Bobroff:

The California Department of Fish and Wildlife (CDFW) has reviewed the Draft Environmental Impact Report (EIR) for the Chevron Carpinteria Oil & Gas Facility Decommissioning Project (Project) pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines. CDFW previously reviewed the Notice of Preparation associated with this Project and submitted a comment letter to the City (NOP letter; dated August 30, 2022).

Thank you for the opportunity to provide additional comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

**CDFW ROLE**

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802.). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for

*Conserving California's Wildlife Since 1870*

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example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.) or the Native Plant Protection Act (NPPA; Fish & G. Code, §1900 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.

## **PROJECT DESCRIPTION SUMMARY**

**Applicant:** Chevron West Coast Decommissioning Program

**Objective:** The purpose of the Project is to remediate the environmental impacts of the legacy oil and gas facilities on the Project site. Objectives as provided by the Applicant are summarized as follows:

- idling and removal of existing surface and subsurface equipment, piping, pipeline segments and structures, including removal of concrete foundations, asphalt, oil spray, and road base.
- pig and flush pipelines in preparation for removal and removal of State Waters Offshore Pipelines out to the 3-nmi state waters limit.
- excavation/remediation of any impacted soil within the Project site and restoration of the affected areas in accordance with the agency approved Remedial Action Plan.
- complete removal of State Waters Offshore Pipelines; and
- recycling/disposal of all materials removed from the Project site.

**Location:** The Project is located at 5675 and 5663 Carpinteria Avenue, in the City of Carpinteria, County of Santa Barbara; Onshore: Assessor's Parcel Numbers (APN) 001-170-003, 004, 014, 021, 022, and 023; and Offshore: State Lease Nos. PRC 3133, 3150, 7911, and 4000 on submerged lands leased from the City (from shore to 2 miles offshore) and County (from 2 to 3 miles offshore). It is located within an area that has been historically utilized for agricultural production and more recently for oil and gas development support activities. Surrounding land uses include the Carpinteria City Hall, Carpinteria Avenue, and U.S. Highway 101 to the north, the Pacific Ocean to the south, the Concha Loma single-family residential neighborhood to the west, and a public golf driving range, agricultural, and open space to the east.

### **Biological Setting:**

The Project site is located on a relatively flat coastal terrace and slopes slightly downward to the south and west. Coastal bluffs of between 35 and 50 feet in height descend from the terrace to a narrow sand beach. Pipeline removals will occur on the bluff and beach areas adjacent to the Casitas Pier and west of the Carpinteria Harbor Seal Rookery, and subsea out to the State water boundary. Marine habitats include sandy beach, intertidal zone, and mixed sandy and rock reef subtidal habitat. The offshore environment consists of a relatively flat and shallow continental shelf, with water depths at the 3-nautical-mile limit at 130 to 150 feet.



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Vegetation, where present, primarily consists of stands of non-native trees and non-native grasses and herbs, apart from several native plant restoration areas within Drainage Area No. 4, the southern end of the Former Marketing Terminal Area, the entrance to the Pier Parking Lot, and at the Former Sandblast Area. The native plant restoration areas primarily consist of coastal scrub and oak woodlands. The Project site is surrounded on three sides by tree windrows of densely planted non-native and native trees, primarily blue gum (*Eucalyptus globulus*) and, to a lesser degree, athel tamarisk (*Tamarix aphylla*), Monterey cypress (*Cupressus macrocarpa*), and Monterey pine (*Pinus radiata*). Native scrub and non-native ice plant mats are also present along the bluffs to the east and west of the Pier Parking Lot.

The Project site and its immediate vicinity contain habitat suitable to support monarch butterflies (*Danaus plexippus plexippus*; monarchs). Monarchs are a federal Endangered Species Act candidate species and are considered a special-status species in California. Monarchs can be found overwintering along the California coast in groves of trees primarily dominated by non-native eucalyptus (*Eucalyptus* spp.), with additional native species including Monterey pine (*Pinus radiata*) and Monterey cypress (*Hesperocyparis macrocarpa*) (Griffiths and Villablanca 2015; Pelton et al 2016). Monarchs have been known to historically use the Project site, and the Western Monarch Overwintering Site ID# 2800 (Xerces 2024) encompasses all of the trees on the Project site, with the exception of the trees in the southeast corner slated for removal. According to the Xerces Society Thanksgiving Counts, it provides overwintering habitat for as many as 8,000 overwintering monarchs (Xerces 2024).

## COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

### Impacts to Marine Resources

#### COMMENT #1: Oil Spill Response

**Issue:** The Project's oil spill response can be improved to further reduce impacts to sensitive species and habitats in the event of an accidental oil spill.

**Specific impact:** As discussed in the Draft EIR, an accidental oil spill and subsequent clean-up efforts could significantly impact aquatic habitats and species. Of particular concern are sensitive habitat areas such as the harbor seal rookery described in the Draft EIR.

**Why impact would occur:** As disclosed in the Draft EIR, even with mitigation, an oil spill could significantly impact sensitive species and habitats via direct toxicity, smothering, entrapment, and habitat loss or degradation. With optimal oil spill response, impacts can be less severe.



Nick Bobroff  
 City of Carpinteria  
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### **Recommended Potentially Feasible Mitigation Measure(s) (Regarding Mitigation Measure or Alternative and Related Impact Shortcoming)**

#### **Recommendation #1**

**To minimize significant impacts:** CDFW strongly recommends close coordination with CDFW's Office of Spill Prevention and Response (CDFW-OSPR) on the preparation and implementation of the Project's Oil Spill Contingency Plan. In the event of a spill, CDFW-OSPR and the U.S. Coast Guard or U.S. Environmental Protection Agency will form a Unified Command.

CDFW recommends that the Oil Spill Contingency Plan (MM Bio.7) include the following:

- Cal-OES and NRC should be called if a spill occurs (Cal-OES: 1-800-852-7550 and NRC: 1-800-424-8802).
- A list of Oil Spill Response Organizations (OSROs), including Marine Spill Response Corporation (MSRC) and Patriot Environmental.
- Measures to prevent spilled oil from reaching the harbor seal rookery.

CDFW-2

### **COMMENT #2: Sensitive Marine Habitats**

**Issue:** The Draft EIR may not adequately minimize impacts to eelgrass (*Zostera* spp.) and other sensitive marine habitats from pipeline removal.

**Specific impact:** According to the Draft EIR, pipeline removal could impact eelgrass and surfgrass (*Phyllospadix* spp.) habitat areas of particular concern (HAPC). While 2021 geophysical and remotely operated vehicle (ROV) surveys did not observe any sensitive marine habitats attached to the pipelines or within the pipeline corridors, these surveys were not able to access water depths less than 18 feet along the Marketing and Marine Terminal Bundle and less than 28 feet along the Gail and Grace Bundle. Eelgrass and surfgrass are most commonly found in these shallow depths, and it is possible that hard substrate and kelp occur in these areas as well. Additionally, the Project's Essential Fish Habitat Assessment (Appendix C-8) identifies a kelp bed approximately 470 feet east of the Casitas Pier with which the Gail and Grace pipeline bundle and 10-inch oil pipeline partially intersect. The depth of this kelp bed is not specified, and whether this area was surveyed is unclear.

**Why impact would occur:** CDFW appreciates the inclusion of Mitigation Measures (MM) Bio.1c.4 (Pre-decommissioning Marine Biological Dive Surveys) and Bio.2c (Essential Fish Habitat Avoidance); however, improvements are needed to further reduce impacts to sensitive marine habitats.

### **Recommended Potentially Feasible Mitigation Measure(s) (Regarding Mitigation Measure or Alternative and Related Impact Shortcoming)**



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## Recommendation #2

**To minimize significant impacts:** All eelgrass surveys and mitigation should adhere to the California Eelgrass Mitigation Policy (CEMP; NMFS 2014). For instance, pre-decommissioning eelgrass surveys must be completed during the active growth period for eelgrass (March through October) no more than 60 days before pipeline removal begins. In addition, all HAPC should be included in mitigation measures. CDFW recommends submitting the results of the pre-decommissioning marine biological dive surveys to CDFW and the National Marine Fisheries Service (NMFS), as well as other relevant agencies. Results should be provided in a detailed report that clearly delineates the locations of sensitive habitat areas, including a description of what was observed at the kelp bed approximately 470 feet east of the Casitas Pier. If impacts to any HAPC cannot be avoided, compensatory mitigation will be required and should be planned in coordination with CDFW and NMFS.

CDFW recommends modifying MM Bio.1c.4 as follows (suggestions in ~~striketrough~~ and **bold**):

*Pre-Decommissioning Marine Biological Dive Surveys. No more than ~~90~~ **60** days prior to commencement of offshore activities, a City-approved, qualified marine biologist shall conduct a pre-decommissioning marine biological survey, with, of the sensitive habitat areas adjacent to the nearshore pipeline corridors. If sensitive **habitats such as** seagrass, **surfgrass, hard substrate, or kelp beds** ~~species~~ are identified, anchor locations shall be relocated to avoid impacts to these protected habitats. ~~and~~ **If seagrass is identified**, post-decommissioning surveys **will be** conducted to verify seagrass beds had not been impacted by Project related activities. If seagrass beds have been impacted, Chevron shall be required to prepare and implement eelgrass restoration as part of the Habitat Restoration and Revegetation Plan under Bio.1b that shall be approved by City. **All eelgrass surveys and mitigation shall adhere to the California Eelgrass Mitigation Policy.** Adjustments to decommissioning methodologies in sensitive habitats may be made **to the greatest extent feasible** to reduce impacts to these areas. In addition, remote operated vehicle or multi-beam geophysical surveys shall be conducted at each anchor location to confirm the absence of hard-bottom habitat.*

*Plan Requirements/Timing: The results of the pre-decommissioning marine biological dive surveys shall be submitted to the City, **California Department of Fish and Wildlife, and National Marine Fisheries Service** for review and fully implemented prior to the issuance of grading permits. Monitoring: Implementation of this measure shall be initiated by the Applicant Project manager and monitored by the designated marine wildlife monitor.*

CDFW recommends modifying MM Bio.2c as follows (suggestions in ~~striketrough~~ and **bold**):

*Essential Fish Habitat Avoidance. No more than ~~90~~ **60** days prior to commencement of offshore activities, a pre-decommissioning marine biological survey of nearshore pipeline corridors shall be conducted. **All eelgrass surveys shall adhere to the California Eelgrass Mitigation Policy.** Anchor pre-plots shall be developed and implemented to*



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avoid kelp beds, rocky habitats, **surfgrass**, and seagrass beds. Anchors shall be lowered vertically to the bottom and retrieved using a crown line as needed to avoid kelp beds, rocky reefs, **surfgrass**, and seagrass beds.

*Plan Requirements/Timing:* The results of the pre-decommissioning marine biological survey and anchor pre-plots shall be submitted to the City, **California Department of Fish and Wildlife, and National Marine Fisheries Service** for review and fully implemented prior to pipeline removal. *Monitoring:* Implementation of this measure shall be initiated by the Applicant Project manager and monitored by the designated marine wildlife monitor.

### **Impacts to Terrestrial Resources**

CDFW-3

#### **COMMENT #3: Impacts to Monarch Butterfly Overwintering Habitat**

**Issue:** Project-related activities have the potential to impact monarchs and their overwintering habitat.

**Specific Impact:** Overwintering groves have specific microclimatic conditions that support monarch populations (Fisher et al 2018), and the Draft EIR does not adequately analyze Project impacts on monarch butterflies. Potential impacts associated with the Project's tree trimming and tree removal activities include roost damage, inadvertent entrapment, reduced likelihood of winter survival, reduced suitability of the habitat for overwintering monarchs, and direct mortality of individual monarchs. Trees that are not scheduled to be removed could be encroached upon during decommissioning and remediation of the Project site. Encroachment could impact the root zones, trunks, or canopy of trees. Such damage can lead to reduced health or mortality of trees and impact microclimatic conditions important to monarchs.

**Why impact would occur:** The Draft EIR acknowledges that monarchs have been documented to occur within the Project site, discusses impacts associated with the removal of trees in the southeast area of the Project site, and requires planting of replacement trees for those removed trees. The Draft EIR also discusses potential direct impacts to monarchs resulting from Project activities, and MM Bio.1c requires a pre-construction survey to determine the presence of roosting monarchs if project activities are scheduled to begin between October 1 and March 1. The Draft EIR does not, however, address the effects of tree trimming on the suitability of the remaining trees as overwintering habitat. The Tree Maintenance and Hazard Reduction Plan (Padre 2023) discusses trimming of hazardous trees throughout the site but does not evaluate the effect of that trimming on the microclimatic conditions of the grove, the potential loss of habitat carrying capacity caused by those changes, nor the need to compensate for that loss of available habitat. A prior document, the Tree Report (Padre 2021a), proposes measures to reduce the severity of impact to trees from activities conducted within their critical root zones; however, the Draft EIR does not include any of these measures as required mitigation. Without inclusion of these mitigation measures, the Project would result in the loss of overwintering habitat for monarchs.

**Evidence impacts would be significant:** During the last three decades, the western migratory monarch population that overwinters along the California coast has declined by



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more than 99% (Marcum and Darst 2021). Habitat loss and fragmentation, including grove senescence, are among the primary threats to the population (Thogmartin et al 2017). Monarch overwintering sites have specific microclimate conditions that are influenced by the configuration of trees and other foliage near the site (Griffiths and Villablanca 2015). Alteration of the site and surrounding areas could impact microclimate conditions, thereby reducing the suitability of the site for monarchs (Weiss et al 1991). This site has been identified as Western Monarch Overwintering Site ID# 2800 (Xerces 2024) and provides overwintering habitat for as many as 8,000 monarchs. Trimming any trees, native or non-native, within this designated monarch overwintering site could alter the site and preclude its continued use as an overwintering site.

### **Recommended Potentially Feasible Mitigation Measures**

To evaluate potential impacts of the Project to monarch butterflies, CDFW recommends the following mitigation measures, in addition to Mitigation Measure Bio 1.c, as conditions of approval in the Project's CEQA document.

#### **Mitigation Measure #1: Monarch Butterfly Habitat Assessment**

A qualified biologist shall be retained to conduct a habitat assessment a minimum of 60 days prior to Project implementation, including tree trimming activities. The qualified biologist shall assess habitat following the Xerces Management Guidelines for Monarch Butterfly Overwintering Habitat (Xerces 2017) or other protocols with prior approval by CDFW. The habitat assessment shall be conducted in consultation with site monitors with knowledge of the history of the grove to determine primary roosting trees and other structural components or flora integral to maintaining microclimate conditions. These plants shall be marked and avoided during project activities.

#### **Mitigation Measure #2: Monarch Habitat Management Plan**

A Monarch Habitat Management Plan shall be developed, in consultation with CDFW, prior to Project implementation. The information gathered during the monarch habitat assessment (Mitigation Measure #1, above) shall be used to develop the plan following the guidance in the Xerces Management Guidelines for Monarch Butterfly Overwintering Habitat (Xerces 2017) or other protocols with prior approval by CDFW. The plan shall be adaptive, with specific goals and objectives, continued monitoring, and refinement over time. The plan shall include as an objective that the baseline population/individual occurrence numbers shall not decrease over three years due to Project activities, and shall include adaptive and contingent measures to ensure this objective is met. The plan shall consider removal or trimming of hazard trees, removal or trimming of trees to create appropriate solar radiation patterns, a long-term tree planting strategy, and shrub and forb management. Trees within core overwintering habitat shall not be cut or trimmed except for specific grove management directed by the plan. Management activities in groves shall only be conducted between March 16 and September 14, in coordination with the aforementioned biologist (Marcum & Darst 2021).



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### **Mitigation Measure #3: Monarch Butterfly Take Avoidance**

If monarch butterflies are detected within the Project area, monarch overwintering habitat shall be avoided by delineating and observing a no-disturbance buffer of at least ½ mile from the outer edge of the habitat (Marcum & Darst, 2021). If buffers cannot be maintained, then consultation with CDFW and the United States Fish and Wildlife Service will occur to determine how to implement ground and tree-disturbing activities and avoid take.

### **Recommendation #3: Native Landscaping for Monarchs**

CDFW encourages landscaping using native trees and shrubs to benefit wildlife such as insect pollinators. Insect pollinators such as the monarch butterfly and native bees have declined drastically relative to 1980s levels, and have had an especially drastic decline since 2018 (Goulson et al 2015; Marcum and Darst 2021). Habitat loss may be a primary driver of monarch decline in the west (Crone et al 2019). CDFW recommends planting native flowering species over non-native ornamental species where possible. CDFW recommends planting winter-blooming nectar sources to support overwintering monarchs. Tropical milkweed (*Asclepias currasavica*) should never be included in landscaping. In addition, the planting of native milkweed species is not recommended within five miles of the coast north of Santa Barbara County and within one mile of the coast south of Santa Barbara County (Marcum and Darst 2021).

### **Mitigation Measure #4: Protection from Tree Encroachment**

CDFW recommends the City include the following measures from the Tree Report as required mitigation measures in the EIR.

The Applicant shall comply with the following tree protection measures:

- If feasible, grading plans shall be adjusted to avoid the critical root zone of windrow trees. If some or all these trees are still considered candidates for encroachment upon final approval of the grading plans, temporary staking or flagging shall be placed along the grading limits prior to initiation of construction for clear identification and to ensure tree impacts are minimized.
- Tree protection areas shall be marked in the field in collaboration with a certified arborist or qualified biologist using fencing and/or flagging, which may coincide or overlap with the staked/flagged grading limits.
- All ground disturbance within 10 feet of the canopy dripline of affected trees shall be monitored by a certified arborist or qualified biologist with tree care experience.
- Staging of equipment and vehicles shall be located outside of the tree protection areas. Placement of heavy equipment for earthwork shall be as far away from the tree protection zones as feasible and shall never be less than 6 feet from the trunk of each specimen tree.
- Overhead branches that conflict with Project activities may be pruned by a qualified tree trimmer according to International Society of Arboriculture (ISA) pruning standards.

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- Excavation activities within tree protection areas will be allowed if soil sampling indicates soils exceed remediation targets and work is conducted with hand tools only, including hydro-excavation. To the extent feasible, hydro-excavation shall not be used in direct contact of roots to avoid damaging the root epidermis and root hair connections of smaller absorptive roots.
- If cutting of roots that are intertwined with belowground features is required, roots shall be saw-cut to avoid tearing, and conducted as far from the root as possible.
- Willows within the FSBA and DA4 shall be preserved through complete avoidance of the Operational Area in which the willow thicket occurs, or if necessary, temporary installation of construction fencing shall occur around each stand of trees throughout the duration of work.

CDFW-4

#### **COMMENT #5: Drainage Area No. 4**

**Issue:** It is unclear in the Draft EIR what, if any, activities will be occurring in Drainage Area No. 4 (DA4).

**Specific Impact:** Without a complete and accurate description of the activities proposed for DA4, the impacts of the Project cannot be evaluated. Therefore, biological impacts may occur without appropriate disclosure, avoidance, minimization, and/or mitigation.

**Why Impact Would Occur:** In various places, the Draft EIR states that no activities will be occurring in DA4. In their NOP comment letter to the City, the Applicant requested the APN that contains DA4 be removed from the Project description because no activities would be occurring on that parcel (Trujillo 2022). Other statements in the Draft EIR, however, indicate that the impacts to wetlands occurring within the containment berm of Tank 861 will be mitigated by the Applicant-proposed expansion of existing wetlands in DA4. The Draft EIR includes the following information about the proposed mitigation:

- The 36-inch high-density polyethylene pipe that bypasses storm run-off from Dump Road and the Former Marketing Terminal Area to the Railroad Ditch shall be removed to allow storm run-off to collect in DA4.
- Following the completion of excavation and backfilling in the MSRC Lease Area, the Shop and Maintenance Area, and the Chevron Pipeline Area, a surface drainage system shall be created that directs storm run-off from these areas to DA4.
- Micro-grading to create shallow depressions and remove upland shrubs such as toyon shall be conducted in DA4 to provide space and hydrologic conditions conducive to wetlands colonization and expansion.

Section 2.4.1.1 of the Draft EIR indicates that partial remediation of chlorinated pesticide-containing soils has occurred within DA4. However, some contaminated soils remain due to cultural resource and habitat tree constraints. The Draft EIR says "engineering controls were constructed to manage storm water by eliminating run-on and controlling run-off at the FNA/BZA/DA4 areas and a Storm Water Monitoring Program implemented to report annually on any storm water accumulation and potential transport of chlorinated pesticide containing sediment offsite into Waters of the State/U.S." The proposed mitigation seems



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to be inconsistent with the requirements of the remediation. In particular, it appears that surface flows entering and exiting DA4 could cause pollution of downstream resources.

The Draft EIR indicates that DA4 was restored with native plants, including toyon and coast live oak. The proposed mitigation includes removal of toyon in DA4, but the Draft EIR does not discuss impacts of the removal of that habitat. Without a thorough discussion of the water quality and habitat impacts associated with Project activities in DA4, the Project will result in undisclosed and, potentially, unmitigated impacts to biological resources.

**Evidence impacts would be significant:** Pursuant to section 15151 of the CEQA Guidelines, an EIR should be prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences. An EIR must include a description of the baseline physical conditions (CEQA Guidelines, § 15125), and must consider all phases of a project (CEQA Guidelines, § 15126). If a proposed mitigation measure would cause one or more significant effects, in addition to impacts caused by the Project as proposed, the Draft EIR should include a discussion of the effects of proposed mitigation measures (CEQA Guidelines, § 15126.4(a)(1)). In that regard, the Draft EIR should provide an adequate, complete, and detailed discussion of the Project activities proposed to occur within DA4.

#### **Recommendation #4: Activities in Drainage Area 4**

CDFW recommends the City clarify what, if any, activities are proposed for DA4. If activities are proposed for DA4, the EIR should discuss the current condition of DA4 and resolve any apparent conflicts between the past remediation efforts and the proposed mitigation. CDFW recommends the EIR be edited to include a thorough discussion of the existing condition of DA4, the purpose and need of the engineered drainage facilities constructed as part of the remediation, the effect of allowing additional flows into and out of DA4, both in terms of potential for downstream transport of pollutants and the effect of additional surface water on oaks, and the removal of toyon.

CDFW-5

#### **COMMENT #6: Stream Impacts**

**Issue:** The Draft EIR may not fully evaluate the Project's impacts to streams.

**Specific impact:** The appendices to the Draft EIR include a Wetland Delineation (Padre 2021b), but do not include a corresponding jurisdictional delineation evaluating any channels, ditches, conduits, or other facilities that convey flows within the Project Site. Therefore, impacts to streams may occur without appropriate disclosure, avoidance, minimization, and/or mitigation.

**Why Impact Would Occur:** In discussing Impact # Bio.3, the Draft EIR states that surface runoff is "...collected and diverted into onsite drainage systems that discharge into the Pacific Ocean." The Preliminary Restoration Plan (Padre, 2021c) mentions an intermittent drainage located along the western edge of the Chevron Pipeline Area, and indicates that



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"elevations that support drainage will be included in the final grading plans for the Project Site". The Preliminary Restoration Plan also says DA4 was restored to support an ephemeral drainage. Section 4.8.1.1 of the Draft EIR mentions a series of paved and unpaved drainage swales, catch basins, and a drainage channel with a sluice gate; however, there is no discussion of or figure showing these drainage systems in the Draft EIR.

Without a full disclosure of potentially regulated streams, (including channels, ditches, conduits, and other facilities that convey flow), CDFW is unable to evaluate the impacts of the Project or the effectiveness of the proposed measures to mitigate the impacts to a level of below significant.

**Evidence impacts would be significant:** CDFW exercises its regulatory authority as provided by Fish and Game Code section 1600 et seq. to conserve fish and wildlife resources which includes rivers, streams, or lakes and associated natural communities. Fish and Game Code section 1602 requires any person, state or local governmental agency, or public utility to notify CDFW prior to beginning any activity that may do one or more of the following:

- Divert or obstruct the natural flow of any river, stream, or lake.
- Change the bed, channel, or bank of any river, stream, or lake.
- Use material from any river, stream, or lake; or,
- Deposit or dispose of material into any river, stream, or lake.

CDFW requires a Lake and Streambed Alteration (LSA) Agreement when a project activity may substantially adversely affect fish and wildlife resources.

The Project may impact streams both during Project construction and for the Project's lifetime. The Draft EIR does not provide measures to mitigate potentially significant impacts on streams. Accordingly, the Project has a substantial adverse direct, indirect, and cumulative effect, either directly or through habitat modifications, on fish and wildlife resources, including rivers, streams, or lakes and associated natural communities identified by CDFW.

#### **Recommendation #5: Stream Impacts**

CDFW recommends a delineation be conducted to determine the presence and lateral extent of streams, including ditches, conduits, and other facilities that convey flows within the Project Site. The results of the delineation should be discussed, and the features depicted, in the EIR. The EIR should discuss specific Project activities that will be occurring in or near any such features, and any changes that will result to their location or condition as a result of Project activities. CDFW recommends the City include mitigation measures in the final EIR to minimize stream impacts, and require compensatory



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mitigation for any impacts remaining after all avoidance and minimization measures have been employed.

CDFW-6

**COMMENT #7: Mitigation for impacts to vegetation communities**

**Issue:** The Draft EIR does not discuss the details or location of compensatory mitigation planned to offset impacts to vegetation communities. This disclosure is necessary so CDFW may assess the potential impacts of proposed mitigation measures and provide comments on the adequacy and feasibility of proposed mitigation measures.

**Specific impact:** The Draft EIR acknowledges that impacts will occur to various vegetation communities as a result of Project activities, and for some of the communities requires mitigation at a specific ratio. The Draft EIR does not, however, include the details necessary for CDFW to evaluate the effectiveness of the proposed measures to mitigate the impacts to a level of below significant.

**Why Impact Would Occur:** Mitigation Measure Bio.2b says "areas that support Menzie's golden bush scrub and lemonade berry scrub that are removed or damaged during construction shall be mitigated onsite at a minimum of 2:1 ratio, which shall be incorporated into the Final Habitat Restoration/Revegetation Plan (MM Bio.1b)". The measure further states "...the City shall review and approve the Final Habitat Revegetation/Restoration Plan to ensure compliance with compensatory mitigation requirements, as needed."

Mitigation Measure Bio.3c requires a minimum of 1:1 mitigation for impacts to wetlands, and requires a plan be prepared and approved by the City.

Mitigation Measure Bio.5 states, "[t]he Applicant shall implement mitigation for all identified decommissioning-related tree impacts per current City of Carpinteria requirements for tree mitigation and replacement. Trees shall be required to be replaced at a ratio appropriate to ensure infill of any gap created in the windrow and with a tree type and size to be approved by the City. Replacement trees that fail to survive within the first five years after planting shall be replaced. Planting of native trees is required as are programs for phased removal and replacement of tamarisk windrows in favor of native tree windrows. The replacement trees must be monitored for seven years after planting."

None of these compensatory mitigation requirements indicate where mitigation will occur, how it will be conducted, success criteria, or how long-term protection of the mitigation will be accomplished. Without identifying specific details regarding the proposed mitigation, the Draft EIR may be deferring mitigation. The Project could result in impacts that have yet to be reduced through appropriate formulation of mitigation measures.

**Evidence impacts would be significant:** Public agencies have a duty under CEQA to prevent significant, avoidable damage to the environment by requiring changes in projects through the use of feasible alternatives or mitigation measures (CEQA Guidelines, §§



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**CDFW-6** 15002(a)(3), 15021). Additionally, formulation of mitigation measures shall not be deferred until some future time. Pursuant to CEQA Guidelines section 15126.4, an environmental document, "... shall describe feasible measures which could mitigate for impacts below a significant level under CEQA."

Mitigation measures must be feasible, effective, implemented, fully enforceable and imposed by the Lead Agency through permit conditions, agreements, or other legally binding instruments (Pub. Resources Code, § 21081.6(b); CEQA Guidelines, § 15126.4).

If a proposed mitigation measure would cause one or more significant effects, in addition to impacts caused by the Project as proposed, the Draft EIR should include a discussion of the effects of proposed mitigation measures (CEQA Guidelines, § 15126.4(a)(1)). In that regard, the Draft EIR should provide an adequate, complete, and detailed disclosure about the Project's proposed compensatory mitigation.

#### **Recommendation #6: Compensatory Habitat Mitigation**

CDFW recommends the City include additional information in the EIR regarding compensatory mitigation that is specific, detailed (i.e., responsible party, timing, specific actions, location), and clear in order for a measure to be fully enforceable and implemented successfully via a mitigation monitoring and/or reporting program (Pub. Resources Code, § 21081.6; CEQA Guidelines, § 15097). For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed. Areas proposed as mitigation lands should be protected in perpetuity with a conservation easement, financial assurance and dedicated to a qualified entity for long-term management and monitoring."

Regarding long-term management of mitigation lands, the EIR should include measures to protect the targeted habitat values from direct and indirect negative impacts in perpetuity. The objective should be to offset the Project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include (but are not limited to) restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, and increased human intrusion. An appropriate endowment should be set aside to provide for long-term management of mitigation lands.

If the information is not available by the time the EIR is finalized, a mitigation measure should be included in the final EIR that requires CDFW review and approval of compensatory mitigation plans prior to implementation.

#### **ENVIRONMENTAL DATA**

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or



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supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). Instructions for submittal are available online at <https://wildlife.ca.gov/Data/CNDDDB>. Additionally, information on special status native plant populations and sensitive natural communities should be submitted to CDFW's Vegetation Classification and Mapping Program. Instructions for submittal are available online at <https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities/Submit>

## FILING FEES

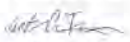
The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

## CONCLUSION

CDFW appreciates the opportunity to comment on the Draft EIR to assist to assist the City in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Kelly Fisher at (858) 354-5083 or [Kelly.Fisher@wildlife.ca.gov](mailto:Kelly.Fisher@wildlife.ca.gov)

Sincerely,

DocuSigned by:  
  
5991E19EF8094C3...

Victoria Tang  
Environmental Program Manager  
South Coast Region

ec: California Department of Fish and Wildlife

Steve Gibson, Senior Environmental Scientist (Supervisory)

Jennifer Turner, Senior Environmental Scientist (Supervisory)

Eric Wilkins, Senior Environmental Scientist (Supervisory)

Jennifer Gold, Senior Environmental Scientist (Specialist)

Sarah Rains, Environmental Scientist



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Amanda Canepa, Environmental Scientist

Cindy Hailey, Staff Services Analyst

Office of Planning and Research

State Clearinghouse, Sacramento  
[State.Clearinghouse@opr.ca.gov](mailto:State.Clearinghouse@opr.ca.gov)

## REFERENCES

California Environmental Quality Act (CEQA). California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

California Office of Planning and Research. 2009 or current version. CEQA: California Environmental Quality Act. Statutes and Guidelines, § 21081.6 and CEQA Guidelines, § 15097, §15126.4(2).

Crone, E. E., Pelton, E. M., Brown, L. M., Thomas, C. C., & Schultz, C. B. (2019). Why are monarch butterflies declining in the West? Understanding the importance of multiple correlated drivers. *Ecological Applications*, 29(7), 1-13.  
<https://doi.org/10.1002/eap.1975>

Fisher, A., Saniee, K., van der Heide, C., Griffiths, J., Meade, D., & Villablanca, F. (2018). Climatic niche model for overwintering monarch butterflies in a topographically complex region of California. *Insects*, 9(4).  
<https://doi.org/10.3390/insects9040167>

Griffiths, J., & Villablanca, F. (2015). Managing monarch butterfly overwintering groves: Making room among the eucalyptus. *California Fish and Game*, 101(1), 40-50.

Marcum, S., & Darst, C. (2021). *Western Monarch Butterfly Conservation Recommendations*.

[NMFS] National Marine Fisheries Service. (2014). California Eelgrass Mitigation Policy and Implementing Guidelines. NOAA Fisheries West Coast Region (October 2014). Available from: [https://media.fisheries.noaa.gov/dam-migration/comp\\_oct\\_2014\\_final.pdf](https://media.fisheries.noaa.gov/dam-migration/comp_oct_2014_final.pdf).

Padre Associates, Inc. (2021a). Tree Report, Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities, Carpinteria, Santa Barbara County, California. Project No. 2002-5211. Prepared for Chevron West Coast Decommissioning Program. December 2021.



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Padre Associates, Inc. (2021b). Coastal Wetlands Delineation Report, Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities, Carpinteria, Santa Barbara County, California. Project No. 2002-5211. Prepared for Chevron West Coast Decommissioning Program, June 2021.

Padre Associates, Inc. (2021c). Preliminary Revegetation/Restoration Plan, Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities, Carpinteria, Santa Barbara County, California. Project No. 2002-5211. Prepared for Chevron West Coast Decommissioning Program. June 2021.

Padre Associates, Inc. (2022). Terrestrial Biological Resources Study, Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities, Carpinteria, Santa Barbara County, California.

Padre Associates, Inc. (2023). Tree Maintenance and Hazard Reduction Plan. Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities, Carpinteria, Santa Barbara County, California. Project No. 2002-5211. Prepared for Chevron West Coast Decommissioning Program. Revision 1: June 2023.

Pelton, E., McKnight, S., Fallon, C., Code, A., Hopwood, J., Hoyle, S. M., Jepsen, S., & Black, S. H. (2018). *Managing for Monarchs in the West: Best Management Practices for Conserving the Monarch Butterfly and its Habitat*.

[Xerces] The Xerces Society. (2017). *Protecting California's Butterfly Groves: Management Guidelines for Monarch Butterfly Overwintering Habitat*.

[Xerces] The Xerces Society. (2024). The Xerces Society Map of Overwintering Sites viewer accessed 1/8/2024, <https://westernmonarchcount.org/map-of-overwintering-sites/>.

Thogmartin, W. E., Wiederholt, R., Oberhauser, K., Drum, R. G., Diffendorfer, J. E., Altizer, S., Taylor, O. R., Pleasants, J., Semmens, D., Semmens, B., Erickson, R., Libby, K., & Lopez-Hoffman, L. (2017). Monarch butterfly population decline in north America: Identifying the threatening processes. *Royal Society Open Science*, 4(9). <https://doi.org/10.1098/rsos.170760>

Trujillo, R. September 27, 2022. Chevron West Coast Decommissioning Program. Letter Re: Chevron U.S.A. Inc. Comment to Notice of Preparation for the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project No. 21-2128-DP/CDP.

Weiss, S. B., Rich, P. M., Murphy, D. D., Calvert, W. H., & Ehrlich, P. R. (1991). Forest Canopy Structure at Overwintering Monarch Butterfly Sites: Measurements with Hemispherical Photography. *Conservation Biology*, 5(2), 165-175. <https://doi.org/10.1111/j.1523-1739.1991.tb00121.x>

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Wilson-Olgin, E. August 30, 2022. California Department of Fish and Wildlife. Letter  
Re: Comments on the Notice of Preparation of a Draft Program Environmental  
Impact Report for the Decommissioning and Remediation of the Chevron  
Carpinteria Oil and Gas Processing Facility Project #2128, SCH #2022080026,  
Santa Barbara County.

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## **ATTACHMENT A: DRAFT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)**

CDFW provides the following language to be incorporated into the MMRP for the Project.

<b>Biological Resources (BIO)</b>		
<b>Mitigation Measure or Recommendation</b>	<b>Timing</b>	<b>Responsible Party</b>
<b>Mitigation Measure #1: Monarch Butterfly Habitat Assessment</b>  A qualified biologist shall be retained to conduct a habitat assessment a minimum of 60 days prior to Project implementation, including tree trimming activities. The qualified biologist shall assess habitat following the Xerces Management Guidelines for Monarch Butterfly Overwintering Habitat (Xerces 2017) or other protocols with prior approval by CDFW. The habitat assessment shall be conducted in consultation with site monitors with knowledge of the history of the grove to determine primary roosting trees and other structural components or flora integral to maintaining microclimate conditions. These plants shall be marked and avoided during project activities.	Prior to Project Activities	City/Project Applicant



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<p><b>Mitigation Measure #2: Monarch Habitat Management Plan</b></p> <p>A Monarch Habitat Management Plan shall be developed, in consultation with CDFW, prior to Project implementation. The information gathered during the monarch habitat assessment (Mitigation Measure #1, above) shall be used to develop the plan following the guidance in the Xerces Management Guidelines for Monarch Butterfly Overwintering Habitat (Xerces 2017) or other protocols with prior approval by CDFW. The plan shall be adaptive, with specific goals and objectives, continued monitoring, and refinement over time. The plan shall include as an objective that the baseline population/individual occurrence numbers shall not decrease over three years due to Project activities, and shall include adaptive and contingent measures to ensure this objective is met. The plan shall consider removal or trimming of hazard trees, removal or trimming of trees to create appropriate solar radiation patterns, a long-term tree planting strategy, and shrub and forb management. Trees within core overwintering habitat shall not be cut or trimmed except for specific grove management directed by the plan. Management activities in groves shall only be conducted between March 16 and September 14, in coordination with the aforementioned biologist (Marcum &amp; Darst 2021).</p>	<p>Prior to Project Activities</p>	<p>City/Project Applicant</p>
<p><b>Mitigation Measure #3: Monarch Butterfly Take Avoidance</b></p> <p>If monarch butterflies are detected within the Project area, monarch overwintering habitat shall be avoided by delineating and observing a no-disturbance buffer of at least ½ mile from the outer edge of the habitat (Marcum &amp; Darst 2021). If buffers cannot be maintained, then consultation with CDFW is warranted to determine how to implement ground and tree-disturbing activities and avoid take.</p>	<p>During Project Implementation</p>	<p>Project Applicant</p>

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#### **Mitigation Measure #4: Tree Encroachment Protection**

The applicant shall comply with the following tree protection measures:

- If feasible, grading plans shall be adjusted to avoid the critical root zone of windrow trees. If some or all of these trees are still considered candidates for encroachment upon final approval of the grading plans, temporary staking or flagging shall be placed along the grading limits prior to initiation of construction for clear identification and to ensure tree impacts are minimized.
- Tree protection areas shall be marked in the field in collaboration with a certified arborist or qualified biologist using fencing and/or flagging, which may coincide or overlap with the staked/flagged grading limits.
- All ground disturbance within 10 feet of the canopy dripline of affected trees shall be monitored by a certified arborist or qualified biologist with tree care experience.
- Staging of equipment and vehicles shall be located outside of the tree protection areas. Placement of heavy equipment for earthwork shall be as far away from the tree protection zones as feasible and shall never be less than 6 feet from the trunk of each specimen tree.
- Overhead branches that conflict with Project activities may be pruned by a qualified tree trimmer according to International Society of Arboriculture (ISA) pruning standards.
- Excavation activities within tree protection areas will be allowed if soil sampling indicates soils exceed remediation targets and work is conducted with hand tools only, including hydro-excavation. To the extent feasible, hydro-excavation shall not be used in direct contact of roots to avoid damaging the root epidermis and root hair connections of smaller absorptive roots.
- If cutting of roots that are intertwined with belowground features is required, roots shall be saw-cut to avoid tearing, and conducted as far from the root as possible.
- Willows within the FSBA and DA4 shall be preserved through complete avoidance of the Operational Area in which the willow thicket occurs, or if necessary, temporary installation of construction fencing shall occur around each stand of trees throughout the duration of work.

During Project  
Implementation

Project  
Applicant

Nick Bobroff  
 City of Carpinteria  
 January 31, 2024  
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<p><b>Recommendation #1</b></p> <p><b>To minimize significant impacts:</b> CDFW strongly recommends close coordination with CDFW's Office of Spill Prevention and Response (CDFW-OSPR) on the preparation and implementation of the Project's Oil Spill Contingency Plan. In the event of a spill, CDFW-OSPR and the U.S. Coast Guard or U.S. Environmental Protection Agency will form a Unified Command.</p> <p>CDFW recommends that the Oil Spill Contingency Plan (MM Bio.7) include the following:</p> <ul style="list-style-type: none"> <li>• Cal-OES and NRC should be called if a spill occurs (Cal-OES: 1-800-852-7550 and NRC: 1-800-424-8802).</li> <li>• A list of Oil Spill Response Organizations (OSROs), including Marine Spill Response Corporation (MSRC) and Patriot Environmental.</li> <li>• Measures to prevent spilled oil from reaching the harbor seal rookery.</li> </ul>	<p>Prior to Project Activities</p>	<p>City/Project Applicant</p>
<p><b>Recommendation #2</b></p> <p><b>To minimize significant impacts:</b> All eelgrass surveys and mitigation should adhere to the California Eelgrass Mitigation Policy (CEMP; NMFS 2014). For instance, pre-decommissioning eelgrass surveys must be completed during the active growth period for eelgrass (March through October) no more than 60 days before pipeline removal begins. In addition, all HAPC should be included in mitigation measures. CDFW recommends submitting the results of the pre-decommissioning marine biological dive surveys to CDFW and the National Marine Fisheries Service (NMFS), as well as other relevant agencies. Results should be provided in a detailed report that clearly delineates the locations of sensitive habitat areas, including a description of what was observed at the kelp bed approximately 470 feet east of the Casitas Pier. If impacts to any HAPC cannot be avoided, compensatory mitigation will be required and should be planned in coordination with CDFW and NMFS.</p> <p>CDFW recommends modifying MM Bio.1c.4 as follows (suggestions in <del>strike through</del> and <b>bold</b>):</p>	<p>Prior to issuance of grading permits</p>	<p>City/Project Applicant</p>

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*Pre-Decommissioning Marine Biological Dive Surveys. No more than ~~90~~ 60 days prior to commencement of offshore activities, a City-approved, qualified marine biologist shall conduct a pre-decommissioning marine biological survey, with, of the sensitive habitat areas adjacent to the nearshore pipeline corridors. If sensitive **habitats such as** seagrass, **surfgrass, hard substrate, or kelp beds** species are identified, anchor locations shall be relocated to avoid impacts to these protected habitats. ~~and If seagrass is identified,~~ post-decommissioning surveys **will** be conducted to verify seagrass beds had not been impacted by Project related activities. If seagrass beds have been impacted, Chevron shall be required to prepare and implement eelgrass restoration as part of the Habitat Restoration and Revegetation Plan under Bio.1b that shall be approved by City. **All eelgrass surveys and mitigation shall adhere to the California Eelgrass Mitigation Policy.** Adjustments to decommissioning methodologies in sensitive habitats ~~may~~ be made **to the greatest extent feasible** to reduce impacts to these areas. In addition, remote operated vehicle or multi-beam geophysical surveys shall be conducted at each anchor location to confirm the absence of hard-bottom habitat.*

*Plan Requirements/Timing: The results of the pre-decommissioning marine biological dive surveys shall be submitted to the City, **California Department of Fish and Wildlife, and National Marine Fisheries Service** for review and fully implemented prior to the issuance of grading permits. Monitoring: Implementation of this measure shall be initiated by the Applicant Project manager and monitored by the designated marine wildlife monitor.*

*CDFW recommends modifying MM Bio.2c as follows (suggestions in ~~strike through~~ and **bold**):*

*Essential Fish Habitat Avoidance. No more than ~~90~~ 60 days prior to commencement of offshore activities, a pre-decommissioning marine biological survey of nearshore pipeline corridors shall be conducted. **All eelgrass surveys shall adhere to the California Eelgrass Mitigation Policy.** Anchor pre-plots shall be developed and implemented to avoid kelp beds, rocky habitats, **surfgrass**, and seagrass beds. Anchors shall be lowered vertically to the bottom and retrieved using a crown line as needed to avoid kelp beds, rocky reefs, **surfgrass**, and seagrass beds.*



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<p><i>Plan Requirements/Timing: The results of the pre-decommissioning marine biological survey and anchor pre-plots shall be submitted to the City, <b>California Department of Fish and Wildlife, and National Marine Fisheries Service</b> for review and fully implemented prior to pipeline removal. Monitoring: Implementation of this measure shall be initiated by the Applicant Project manager and monitored by the designated marine wildlife monitor.</i></p>		
<p><b>Recommendation #3</b></p> <p>CDFW encourages landscaping using native trees and shrubs to benefit wildlife such as insect pollinators. Insect pollinators such as the monarch butterfly and native bees have declined drastically relative to 1980s levels, and have had an especially drastic decline since 2018 (Goulson et al 2015; Marcum and Darst 2021). Habitat loss may be a primary driver of monarch decline in the west (Crone et al 2019). CDFW recommends planting native flowering species over non-native ornamental species where possible. CDFW recommends planting winter-blooming nectar sources to support overwintering monarchs. Tropical milkweed (<i>Asclepias currasavica</i>) should never be included in landscaping. In addition, the planting of native milkweed species is not recommended within five miles of the coast north of Santa Barbara County and within one mile of the coast south of Santa Barbara County (Marcum and Darst 2021).</p>	<p>During Project Implementation</p>	<p>Project Applicant</p>

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<p><b>Recommendation #4</b></p> <p>CDFW recommends the City clarify what, if any, activities are proposed for DA4. If activities are proposed for DA4, the EIR should discuss the current condition of DA4 and resolve any apparent conflicts between the past remediation efforts and the proposed mitigation. CDFW recommends the EIR be edited to include a thorough discussion of the existing condition of DA4, the purpose and need of the engineered drainage facilities constructed as part of the remediation, the effect of allowing additional flows into and out of DA4, both in terms of potential for downstream transport of pollutants and the effect of additional surface water on oaks, and the removal of toyon.</p>	<p>Prior to Finalizing EIR</p>	<p>City</p>
<p><b>Recommendation #5</b></p> <p>CDFW recommends a delineation be conducted to determine the presence and lateral extent of streams, including ditches, conduits, and other facilities that convey flows within the Project Site. The results of the delineation should be discussed, and the features depicted, in the EIR. The EIR should discuss specific Project activities that will be occurring in or near any such features, and any changes that will result to their location or condition as a result of Project activities. CDFW recommends the City include mitigation measures in the final EIR to minimize stream impacts, and require compensatory mitigation for any impacts remaining after all avoidance and minimization measures have been employed.</p>	<p>Prior to Finalizing EIR</p>	<p>City</p>

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<p><b>Recommendation #6</b></p> <p>CDFW recommends the City include additional information in the EIR regarding compensatory mitigation that is specific, detailed (i.e., responsible party, timing, specific actions, location), and clear in order for a measure to be fully enforceable and implemented successfully via a mitigation monitoring and/or reporting program (Pub. Resources Code, § 21081.6; CEQA Guidelines, § 15097). For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore not adequately mitigation the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed. Areas proposed as mitigation lands should be protected in perpetuity with a conservation easement, financial assurance and dedicated to a qualified entity for long-term management and monitoring.”</p> <p>Regarding long-term management of mitigation lands, the EIR should include measures to protect the targeted habitat values from direct and indirect negative impacts in perpetuity. The objective should be to offset the Project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include (but are not limited to) restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, and increased human intrusion. An appropriate endowment should be set aside to provide for long-term management of mitigation lands.</p> <p>If the information is not available by the time the EIR is finalized, a mitigation measure should be included in the final EIR that requires CDFW review and approval of compensatory mitigation plans prior to implementation.</p>	<p>Prior to Finalizing EIR</p>	<p>City</p>
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Hi Mr. Nick Bobroff,

CPUC-1

This is Oliver Garcia. I'm with the California Public Utilities Commission, Rail Safety Division. I received your CEQA notification regarding the Chevron Carpinteria Oil and Gas Facility Decommissioning Project. I'm just calling because the project seems to be in the area of the crossing of the Union Pacific Railroad tracks and you may be crossing equipment at the existing private crossing at that location, and I just wanted to get an idea of how that crossing will be impacted. For commenting purposes prior to January 15 as stated in the notification. When you get a chance, please give me a call back. My area code is 213-369-7674. Thank you, looking forward to your call. Thanks, bye.

[Transcribed]





**CARPINTERIA**  
Sanitary District

5300 Sixth Street  
Carpinteria, CA 93013

Phone (805) 684-7214 • Fax (805) 684-7213

December 22, 2023

Mr. Nick Bobroff  
Community Development Director  
5775 Carpinteria Avenue  
Carpinteria, California 93013

**Subject: Decommissioning and Remediation of the Chevron Oil and Gas Processing Facility Draft EIR (DEIR).**

Dear Mr. Bobroff,

Thank you for the opportunity to review the subject DEIR. This DEIR presents a comprehensive and rigorous analysis of the decommission and remediation activities planned for the Chevron facilities. The Carpinteria Sanitary District (District) has a few minor comments/concerns that should be considered:

- |       |                                                                                                                                                                                                                                                                                                                                                                                            |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CSD-1 | 1. Any discharge of wastewater from decommissioning and remedial activities must be approved by the District and may require a permit. Best management practices should be implemented to prevent unauthorized or accidental discharges to the sanitary sewer system.                                                                                                                      |
| CSD-2 | 2. There is approximately 3,375 linear feet of private and public sewer main within the Chevron properties. Some of these buried sewer pipelines provide sanitary sewer service to 5665 and 5775 Carpinteria Avenue. The EIR should address the disposition of the sewer laterals and mains, including protection of the mains during remedial activities and possible future abandonment. |

Thank you for your consideration. Please do not hesitate to contact the District if there are questions or concerns about these comments. I can be reached at (805) 684-7214 x113 or by email at [lancel@carpsan.com](mailto:lancel@carpsan.com).

Sincerely  
CARPINTERIA SANITARY DISTRICT

Lance Lawhon  
Engineering Technician



*Protecting the beauty & natural  
resources of our valley since 1964*

# Carpinteria Valley Association

PO Box 27, Carpinteria, CA 93014

carpinteriavalleyassociation@gmail.com

Nick Bobroff  
Community Development Director  
City of Carpinteria  
nickb@carpinteriaca.gov

Jan 30, 2024

## Comments on:

### **Draft EIR for Chevron Carpinteria Oil & Gas Facility Decommissioning Project Project No. 21-2128-DP/CDP**

This letter has comments from Carpinteria Valley Association about inadequacies in the Draft EIR for Chevron Carpinteria Oil & Gas Facility Decommissioning Project (Project No. 21-2128-DP/CDP).

#### **1. The harbor seal rookery is NOT “largely abandoned in the summer and fall”.**

Sec 4.3.4 of the DEIR states:

“The harbor seal rookery is largely abandoned in the summer and fall, due to unrestricted, seasonal public access and beach activities, which will correspond to when the proposed beach and offshore Project activities will occur; therefore, Project activities associated with pipeline removal are not expected to cause incidental harassment of Pacific Harbor Seal.”

This appears to be based on the similar statement in sec 4.2.4.1 the Padre Associates “Marine Biological Resources Study” in Appendix C-5:

“The harbor seal rookery is largely abandoned in the summer and fall, due to unrestricted, seasonal public access and beach activities, which will correspond to when the proposed beach and offshore Project activities will occur; therefore, Project activities are not expected to cause incidental harassment of marine mammals.”

The basis for this statement is factually incorrect. The harbor seal rookery is NOT “largely abandoned in the summer and fall”. Seals are frequently observed by visitors to the viewing area throughout the entire year, including the period from June 1 to Nov 30 when the City of Carpinteria beach closure is not in place. Carpinteria resident Susan Mailheau, DVM, kept logs of her observations of the seal rookery since 2019. Sample pages from these extensive contemporaneous logs are attached at the end of this letter. These pages document significant numbers of seals present on dates in the summer or fall in each from 2019 to 2023, as is also documented in the rest of Dr. Mailheau’s logs.

This factual error is fundamental to the analysis in the DEIR. There are two options for correcting the DEIR:

- a. The DEIR preparation could be put on hold until Dec 1, 2024, and from June 1 until Nov 30 accurate seal counts can be performed throughout the day (either by manual counts or by computer analysis of video from a camera temporarily installed) and night (using an IR camera). The counts must include a sample just before sunrise when the seals are least likely to have recently been disturbed.

- or -



CVA-1

- b. The DEIR could recognize the fact that large numbers of seals are indeed on the beach year-round, including from June 1 to Nov 30.

CVA-2

**2. The cause stated for disturbances of the seals is factually incorrect.**

In the DEIR sections quoted in item 1 above, the DEIR states that the reason for the purported “abandonment” is “unrestricted, seasonal public access and beach activities”. It is false that public access and beach activities are “unrestricted” from June 1 to Nov 30. While the City of Carpinteria beach closure is not in effect during that period, the Marine Mammal Protection Act is in place all year, and it prohibits harassing or disturbing marine mammals in the wild, with “disturbance” including any act that causes the seals to flee to the water from the beach. Therefore, the Marine Mammal Protection Act specifically restricts public access and beach activities that would cause the seals to “abandon” the beach. Adherence to and enforcement of existing restrictions may be an issue, but the existence of the restrictions is not.

The DEIR statement about “unrestricted, seasonal public access and beach activities” must be corrected.

CVA-3

**3. Once the presence of seals year-round is accurately documented, the subsequent analysis must be updated.**

Since the presence of seals on the beach during the period June 1 to Nov 30 was incorrectly ignored, the analysis of impacts to those seals in the Environmentally Sensitive Habitat Area of the harbor seal rookery. Specifically, the impacts of the “Full Removal of Facilities Alternative” must be updated to correctly reflect the impacts to the seals.

CVA-4

**4. Need to create a modified alternative to “Full Removal of Facilities Alternative”.**

Once the impacts to the seal rookery are correctly analyzed, the “Full Removal of Facilities Alternative” will have additional impacts that cannot be mitigated. However, we believe these impacts could be avoided by creating a new alternative that is the “Full Removal of Facilities Alternative” modified to abandon in place the pipes near the seal rookery. The extent of pipes to remain in place (i.e., how far from the beach to cap them) is a question to be answered by the DEIR analysis. The purpose is to maintain as many of the benefits as possible of the environmentally superior “Full Removal of Facilities Alternative” while eliminating the impacts to the harbor seal rookery that will be identified once the year-round presence of harbor seals at the rookery is correctly documented.

Thank you,

Mike Wondolowski  
President  
Carpinteria Valley Association  
[carpinteriavalleyassociation@gmail.com](mailto:carpinteriavalleyassociation@gmail.com)

**Attachments:** Samples of 2019-2023 seal rookery observation logs from Susan Mailheau, DVM (5 pgs)



10/4/19

7:30 Low tide

156 Seals on beach  
at Hi tide 10' x 20' dry sand

foot prints - many  
dog prints from a large dog

10/8/19

9:30

just after HI tide  
4.0'

96 adults + some pups

Great Blue Heron  
Gulls

Several very large  
(pregnant?)

10/15/19 Tues ~7 AM

150 seals on beach

10/19/19 Sat ~7:30 Rising tide 3+ feet

55 seals, 1 adult with fresh wound  
behind (R) front flipper  
Saw 2 Osprey on bluffs





9/23/20 ~7<sup>15</sup> AM Tide 3.1

112 Seals total

6-7 were this year's pups

Randy had camera + got good photos

Many fresh shoe prints + signs of flushing either before the 1 AM HI at 5:7 or at dawn

9/29 Early AM ~7

No sign of any seals, not even beach tracks.

Crab/lobster pots bobbing in the water.

A few seals in sea to east of sanctuary - one "bottling", maybe trying to sleep.

One lone spotted seal, either a small adult or older pup, came ashore in the Mookery briefly. She looked around then returned to the water. Ten-15 min. later she was accompanied by 2 pups - 1 much smaller - swimming in water off shore.



7/6/21 6<sup>50</sup> Tide 2.2  
A 70  
Pups 5

7/6/21 No seals at 7, Tide 0.9 Low  
Human foot prints fresh, Multiple bike  
tracks @ overlook and low-flying  
helicopter all possible causes  
Half hour later single pup tried  
to return, then swam west w/ one  
adult and another pup.





7/4/22 Monday 6<sup>35</sup> AM Low tide  
125 adults - includes large  
white "Shark Belly"; the one with  
clear shark bite scar on  
left abdomen; many under wt.

9 pups, one clearly smaller  
and surrounded by adults.  
Soon a man w/ dashed GSH  
came through -  
Soon after a family of 6 came  
right out to Chascent rocks.  
All seals flashed.

7/10/22 6:30 AM Tide 2-4 rising  
87 seals  
12 probable pups; none stand out  
as the small one seen last week

sun  
7-30-23 6:30 AM Tide 1.5

58 Seals on shore  
briefly 59

One remained isolated -  
dark black w/ white spot  
Large blue adult was there

Man came into overlook w/ a  
large springer spaniel. I  
asked him to keep dog out  
and gave him full explanation  
Very nice, said his name is Jeff

8/8/23 7 AM Tide 2.42 [Photos] \*

Note: Jelly Bowl Point is passable

85 Seals on beach along shoreling but  
~~not~~ no obvious formation \*

Man walked went to pier +  
started photographing  
Seals did not flush (!)

Note: large white seal in photo died,  
washed ashore at Tar Pits - seal DGM MR

\* In retrospect, "formation" is obvious



**Nick Bobroff**

---

**From:** Spencer Seale <spencer@cvwd.net>  
**Sent:** Wednesday, January 10, 2024 9:43 AM  
**To:** Nick Bobroff  
**Cc:** Brian King  
**Subject:** RE: [External] Notice of Availability of EIR for Chevron Carpinteria Oil & Gas Facility Decommissioning Project  
**Attachments:** Atlas Sheet 85 - Dump Road.pdf

**\*\*EXTERNAL EMAIL\*\***

**CAUTION:** This email originated from outside the City of Carpinteria. **DO NOT OPEN** attachments or **CLICK** on links unless you are sure they are safe. Remember, reputable vendors, banks, etc. will not ask you to disclose passwords or other sensitive information.

Hey Nick,

CVWD has a 4" AC water main that extends down Dump Road and a 1" water meter at the north end of the "Former Marketing Terminal Area". It appears that the asphalt surface at the north end of this area is to be demolished. CVWD wants to ensure that our facilities are in fact outside of the proposed demolition area. I have included a couple snippets below and attached the relevant water atlas sheet. Please let me know if you have any questions.

Thank you,

**Spencer Seale,**

Field Engineering Technician I  
Carpinteria Valley Water District  
1301 Santa Ynez Ave.  
Carpinteria, CA 93013  
(805) 331-0087



**EIT**







**From:** Nick Bobroff <[nickb@carpinteriaca.gov](mailto:nickb@carpinteriaca.gov)>

**Sent:** Thursday, November 30, 2023 4:31 PM

**Subject:** [External] Notice of Availability of EIR for Chevron Carpinteria Oil & Gas Facility Decommissioning Project

**Caution:** This email originated from outside of CVWD. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Afternoon,

As an interested party for the Chevron Carpinteria Oil & Gas Facility Decommissioning Project, you're receiving this email because the City of Carpinteria has prepared a Draft Environmental Impact Report (EIR) for the project. The Draft EIR is now available for public review and comment at the following link: <https://carpinteriaca.gov/city-hall/community-development/oil-gas-information/oil-processing-facility-decommissioning/>

The public review and comment period begins today, November 30, 2023, and will close on **January 15, 2024 at 5pm**. Please submit written comments to me by mail or email at the contact information below.

You are also welcome to participate in the City's upcoming Public Workshop / Environmental Review Committee meeting for this Draft EIR to be held on Monday, December 18, 2023, from 5:30 p.m. to 8:00 p.m. in the Council Chambers at Carpinteria City Hall, 5775 Carpinteria Avenue, Carpinteria, CA 93013.

If you have any questions or comments, please do not hesitate to contact me.

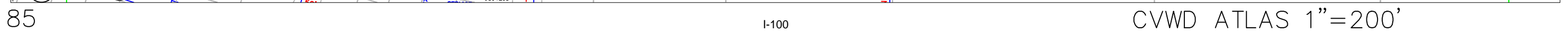
Thank you,



**Nick Bobroff**

Director, Community Development Department  
City of Carpinteria  
5775 Carpinteria Ave, Carpinteria, CA 93013  
Direct Line: (805) 755-4407 | [nickb@carpinteriaca.gov](mailto:nickb@carpinteriaca.gov)  
[CarpinteriaCA.gov](http://CarpinteriaCA.gov)







**Rebecca Trujillo**  
Regulatory Affairs Manager  
West Coast Decommissioning Program

January 31, 2024

Mr. Nick Bobroff  
Community Development Director  
City of Carpinteria  
5775 Carpinteria Ave  
Carpinteria, CA 93013

**RE: Chevron U.S.A. Inc. Comments on Draft Environmental Impact Report for the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project No. 21-2128-DP/CDP 5675 and 5663 Carpinteria Avenue (APNs 101-170-003, -004, -014, -021, -022, and -023)**

Dear Mr. Bobroff:

Chevron appreciates the opportunity to provide comments on the City's Draft Environmental Impact Report (DEIR) on the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project (Project) as sent to the State Clearinghouse in the Governor's Office of Planning and Research posted on November 30, 2023.

Chevron has reviewed the City's DEIR prepared in compliance with the California Environmental Quality Act (CEQA) and is pleased that the City has extended the public review and comment period to January 31, 2024. Chevron requests that the City consider the following comments regarding the DEIR for the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities, Project No. 21-2128-DP/CDP (Project) and revise the Final EIR accordingly:

- **Executive Summary and Introduction:**

- Chevron appreciates the City's correction of the Project Description in the DEIR's Executive Summary (ES.2), in order to be consistent with the DEIR Project Description's Project Overview (2.1) and Project Objectives (2.2).
- However, the Overview of the Project, Section 1.1 in the Introduction (p. 1-1), still contains the statement that "Tier 1 Environmental Screening Levels for residential uses (or equally protective contaminant-specific, agency approved levels) provide the standard for on-site soil remediation, consistent with Chevron's clean up objectives." This sentence should be deleted, as it is incorrect and inconsistent with the Project Description's Project Objectives as described in the DEIR (2.2) and the corrected Executive Summary (ES.2), as well as with Chevron's Project application and related correspondence on September 27, 2022 and May 3, 2023 with the City related to changes proposed for the same.
- Instead, as the DEIR correctly states (e.g., p. 1-13), remediation will comply with cleanup levels approved by regulatory agencies, but the DEIR impact analysis assumes the most stringent clean up levels for the purpose of determining the magnitude of impacts such as traffic and noise, based on the maximum amount of remediation activities including soil excavation and truck trips.

- The City should also ensure that the corrected version of the Executive Summary and Introduction appears in the DEIR document uploaded to the State of California CEQA clearinghouse.

- **Project Execution Schedule**

- The schedule included with our application in October 2021 reflected an execution schedule we believed to be achievable at that time.<sup>1</sup> We later revised that schedule and transmitted it to the City on May 3, 2023. The revised schedule proposes to carry out the Project within a three-year window that begins April 2024, assuming the final EIR would be certified and permits issued prior to that date. To the extent the City's schedule is further revised, Chevron anticipates additional revisions to its proposed execution schedule.

- **Environmental Impact Analysis of The Proposed Project**

- Air Quality
  - The air pollutant calculations for the maximum 12-month period are based on implementation of Task/Areas 4 through 7 within a 12-month period. Based on the revised project schedule (Table 2.10), demolition and remediation of the Main Plant Area (Area 6) and MSRC Lease Area will not occur within the same 12-month period. The air pollutant calculations should be updated accordingly.
- Greenhouse Gas (GHG) Emissions
  - The GHG calculations for the maximum 12-month period are based on implementation of Task/Areas 4 through 7 within a 12-month period. Based on the revised project schedule (Table 2.10), demolition and remediation of the Main Plant Area (Area 6) and MSRC Lease Area will not occur within the same 12-month period. The GHG emission calculations should be updated accordingly.
- Hazardous Materials
  - The analysis of hazardous materials impacts (Impact Haz.2) appears to incorrectly present the continuing presence of baseline and/or natural conditions, which are part of the pre-existing Environmental Setting. These baseline conditions will not be altered or affected by the Project, as though they were impacts of the Project, and were not included in the scope of Chevron's project description.
    - Legacy Oil Wells – Chevron bears no obligation or responsibility for the abandonment of the legacy oil wells that were never operated by Chevron and were present on the Project Site prior to Chevron's current ownership (Cal. Pub. Res. Code § 3237). See Attachment 1, documenting the historic operators of the seven legacy wells, which was previously provided to the City. The legacy wells are a baseline condition, and the Project does not include any activity that would disturb or impact this baseline condition.
    - Natural Oil Seeps – The DEIR acknowledges that the Project would not involve excavation into the Monterey Formation or tar seeps, and that the tar seeps were historically present onsite. Chevron will not disturb these natural seeps as part of the Project, and they also constitute a baseline as well as a natural environmental condition.
  - Under Impact Haz.2, the DEIR (pp. 4.7-14 – 15) states that “there would be an increase in health hazards associated with leaving the wells in place” and “the potential for oil or gas releases associated with the wells and the oil seeps would remain.” The Final EIR should be revised to clarify that the continuing presence of these baseline conditions are not impacts of the proposed Project.

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<sup>1</sup> 2.5.3.2 Construction Schedule, p. 2-38

- Noise

- The DEIR analysis of noise impacts N.1 and N.2 is based on Table 4.10.8, which is based on the noise assessment prepared by consultants Behrens and Associates, Inc. (2023). Behrens has reviewed the DEIR and noted that it uses a different methodology than their study; see Attachment 2.
  - According to Behrens, the DEIR uses overly conservative assumptions in the calculations when estimating noise levels during decommissioning operations, utilizing the lowest hourly ambient sound level during the daytime period and comparing that value to the loudest hourly sound level from the predicted values at the corresponding receptors. The DEIR's approach fails to take into account the fact that peak sound levels on the site typically are a result of high baseline traffic noise from the 101 corridor and the additional periodic noise from the adjacent railroad corridor. The DEIR presents an extremely conservative assessment that is not based on any construction-specific City noise guidelines. Given the baseline conditions, it would be more reasonable to utilize the average daytime ambient sound level instead of the lowest sound level, because there are major differences from hour to hour due to the constant passing of trains which contribute to ambient noise.
  - The predictive model used in the Behrens 2023 noise study represents the loudest possible sound levels, assuming that all equipment is running concurrently, which is already a highly conservative assumption. Applying the Behrens noise study assumptions, the Project will not result in exceedance of the City's noise thresholds even when using conservative estimates, and impacts are therefore less than significant; no mitigation is required.
- Chevron does not object to Mitigation Measure N.2b since the Project does not propose to conduct onshore nighttime construction. However, Mitigation Measure N.2a, which requires installation of noise barriers and the removal of safety sound alerts to mitigate noise impacts, is unnecessary and should be removed. Mitigation is required only for impacts determined to be potentially significant because they exceed significance thresholds, not for impacts found to be less than significant. CEQA Guidelines § 15126.4(a)(3).
- In the alternative, if the overly conservative assumptions of the DEIR noise analysis are retained, MM N.2a should be revised to expressly require noise barriers and limit noise activities only in the locations where noise is projected to exceed significance thresholds in DEIR Table 4.10-8, or is demonstrated to exceed thresholds by noise monitoring at residences. For example, the DEIR assumes that Receiver 12 will be exposed to noise at 69.2 dBA during the entire period of construction, but this occurs during Phase 2. In Phase 1 and Phase 3, the predictive sound levels results are 48.9 dBA and 54.1 dBA, respectively. Chevron requests that the City allow a noise monitoring plan that would employ noise barriers to the extent necessary if/when noise was expected to exceed allowable thresholds, but not throughout construction activities.
- In addition, the requirement to remove safety sound alerts should be deleted from MM N.2a. Removal of these sound alerts is infeasible, as doing so would present safety issues for workers onsite when heavy equipment is present.

- **Environmental Analysis and Comparison of Alternatives**

- The Full Removal Alternative described in the DEIR includes removal of legacy wells, and natural features which, as discussed above, are baseline conditions for which Chevron bears



no responsibility. An EIR must consider a reasonable range of alternatives which would feasibly attain most of the basic project objectives but would avoid or substantially lessen any of the project's significant impacts. CEQA Guidelines § 15126.6(a). There is no basis under CEQA to include legacy wells or natural seeps in the Full Removal Alternative, as doing so will not avoid or reduce any significant impacts of the Project, and does not address any of the Project objectives. Including these elements in the Full Removal Alternative is also legally and technologically infeasible, since Chevron is not legally responsible for the legacy wells, while the seeps are natural environmental features that have existed for thousands of years and there are no feasible means of removing and remediating them. Moreover, adding these actions to the Full Removal Alternative would cause additional impacts associated with additional remediation work unrelated to the Project.

- In addition, the Full Removal Alternative includes removal of the Hazel and Hilda pipeline bundle, which was associated with the previously decommissioned Platforms Hazel and Hilda.
  - Like the legacy wells and natural seeps, the presence of the pipeline bundle is an existing baseline condition. As the DEIR acknowledges (p. 5-5), the State Lands Commission approved abandonment of these pipelines in place during the platform decommissioning project. Prior to abandonment in place, the pipelines were cleaned by flushing and running a “pig” through the lines to remove all hydrocarbons, and filled with grout to a distance of 800 feet offshore from the bluff. See the State Lands Commission’s August 3, 1994 Mitigated Negative Declaration for the Abandonment and Removal of Four Offshore Oil Platforms, Santa Barbara County (MND), p. 2-27. As such, these pipelines pose no ongoing risk of release.
  - Including the Hazel and Hilda pipeline bundle in the Full Removal Alternative would also cause additional impacts associated with additional removal work. As explained in the MND (p. 2-27), the Hazel and Hilda pipelines were abandoned in place to “minimize environmental impacts associated with removal operations [so that] no disruption of the beach or bluff face will occur. . . . [A]bandonment in place poses no significant risk or hazard and, thus, represents the environmentally superior alternative to the disruption caused by removing the lines across the beach.”
- For these reasons, Chevron requests that the City revise the Final EIR to delete the Full Removal Alternative, and analyze only the proposed Project and the No Project Alternative. CEQA does not require an EIR to analyze more alternatives than the No Project Alternative in all cases; whether to do so must be evaluated based on the facts and circumstances of each project. See *Mount Shasta Bioregional Ecology Center v. County of Siskiyou* (2012) 210 Cal.App.4th; 184, *San Franciscans for Livable Neighborhoods v. City and County of San Francisco* (2018) 26 Cal.App.5th 596; *Save Our Access v. Watershed Conservation Authority* (2021) 68 Cal. App. 5th 8, 31 (“there are no precedents that disagree with the principle stated in those cases, and we agree with both of them”).
  - In this case, the proposed Project is not a typical industrial development project but a decommissioning and remediation project that includes no new facilities. The typical range of alternatives for reducing a development project’s environmental footprint (such as a smaller facility or different location) does not apply.
  - The Full Removal Alternative does not even qualify as a proper EIR alternative under CEQA Guidelines § 15126.6(a), as it would not avoid or substantially lessen the Project’s significant impacts. On the contrary, each of its three components would result in increased impacts compared to the existing conditions baseline. Nor would the Full Removal Alternative attain most of the Project objectives identified in the DEIR, p. 2-1.
- Alternatively, if the City elects to retain the Full Removal Alternative (in its entirety or any of its components), the Final EIR should reevaluate the Environmentally Superior Alternative.

Tables ES.3 and 5.2 demonstrates increased impacts from the Full Removal Alternative, yet the Full Removal Alternative was selected as the Environmentally Superior Alternative. Since these additional impacts would not occur or would be reduced with the Project, the Project should be considered environmentally superior to the Full Removal Alternative. It appears that the reason the DEIR identifies the Full Removal Alternative as environmentally superior is that it addresses baseline conditions (natural seeps and legacy wells). However, these baseline conditions are not impacts of, and would not change as a result of, Chevron's proposed Project. Moreover, as noted above, there is no ongoing risk of releases from the Hazel and Hilda pipelines, which ceased transporting oil and were cleaned and flushed decades ago, as part of the 4H Platforms decommissioning. Since the Full Removal Alternative includes the entire Proposed Project plus additional removal work with associated impacts, the Proposed Project without those added impacts is environmentally superior to the Full Removal Alternative.

Additional details on these comments, as well as other comments on the DEIR, are attached as Attachment 3 to this letter. For ease of navigation, Chevron has provided these responses in a matrix format, utilizing the same heading and page numbers as the DEIR. We appreciate your attention to our comments. Please reach out to me directly if you would like any clarification of our comments or to discuss any questions or concerns further. Thank you.

Sincerely,



Rebecca Trujillo  
Regulatory Affairs Manager

ATTACHMENT 1 – Legacy Wells Operator History

ATTACHMENT 2- Behrens and Associates Comments

ATTACHMENT 3 – Matrix of Comments on the DEIR

ATTACHMENT 4 – Tree Inventory Map

## **ATTACHMENT 1 – Legacy Wells Operator History**

Well Detail

Catlin-Fletcher 1 - API 0408304297

Summary

Actions

<b>API Number</b> 0408304297	<b>Well Designation</b> Catlin-Fletcher 1	<b>Well Number</b> 1
<b>Operator</b> D. S. Fletcher	<b>Well Type</b> Dry Hole	<b>Well Status</b> Plugged & Abandoned
<b>Active Permit</b> No	<b>Bond Number</b> N/A	<b>Confidential Well</b> No
<b>Confidentiality Expiration Date</b> N/A	<b>Lease</b> Catlin-Fletcher	<b>Surface Owner</b> N/A
<b>Mineral Owner</b> N/A	<b>Interested Federal Agencies</b> N/A	<b>Well Name</b> Unspecified
<b>Well Spud Date</b> N/A	<b>Exploratory Well</b> No	<b>Dry Hole</b> Y
<b>Status Date</b> 04/26/2018	<b>Initial Date of Production</b> N/A	<b>Directionally Drilled</b> No
<b>Fields(s)</b> N/A	<b>Areas(s)</b> N/A	<b>Pool(s)</b> N/A
<b>Well Classifications</b> N/A		

Surface Location

<b>Section</b> 33	<b>Township</b> 04N	<b>Range</b> 25W
<b>Latitude</b> 34.38802719	<b>Longitude</b> -119.50826263	<b>B&amp;M</b> SB
<b>County</b> Santa Barbara	<b>District</b> Coastal	<b>Onshore/Offshore</b> Onshore
<b>Datum</b> NAD 83	<b>Corner Call</b> N/A	
<b>Location Description</b> N/A		

Bottom Hole Location - Wellbore 0408304297-00

<b>Section</b> N/A	<b>Township</b> N/A	<b>Range</b> N/A
<b>Latitude</b> N/A	<b>Longitude</b> N/A	<b>B&amp;M</b> N/A
<b>Field</b> Any Field [0]	<b>County</b> N/A	<b>Corner Call</b> N/A

Current Associated Projects

Wellhead Equipment

Well Activity

PRODUCTION DATA  
(Jan 2021 - Present)

0

View All

I-107



OIL (Bbls)

0

0

GAS (Mcf)

WATER (Bbls)

## INJECTION DATA

(Jan 2021 - Present)

[View All](#)

0

OIL (Bbls)

0

GAS (Mcf)

0

WATER (Bbls)

## Zones of Significance

Wellbore  
0408304297-00**Type:**

Dry Hole

**Status:**

Plugged

**Wellbore Spud  
Date:**

N/A

**Rig Release Date:**

N/A

**Completion Date:**

N/A

**Depth Datum:**

N/A

**Feet Above Ground:**

N/A

**Elevation Above****Sea Level:**

N/A

**Wellbore Direction:**

Vertical



Well Detail

P. C. Higgins 1 - API 0408304644

SummaryActions

<b>API Number</b> 0408304644	<b>Well Designation</b> P. C. Higgins 1	<b>Well Number</b> 1
<b>Operator</b> P. C. Higgins	<b>Well Type</b> Oil & Gas	<b>Well Status</b> Idle
<b>Active Permit</b> No	<b>Bond Number</b> N/A	<b>Confidential Well</b> No
<b>Confidentiality Expiration Date</b> N/A	<b>Lease</b> P. C. Higgins	<b>Surface Owner</b> N/A
<b>Mineral Owner</b> N/A	<b>Jurisdiction</b> N/A	<b>Well Name</b> Unspecified
<b>Spud Date</b> N/A	<b>Exploratory Well</b> No	<b>Dry Hole</b> Y
<b>Status Date</b> 04/26/2018	<b>Initial Date of Production</b> 1/31/1977	<b>Directionally Drilled</b> No
<b>Well Classifications</b> N/A		

Location Information

<b>Field</b> Any Field [0]	<b>Area(s)</b> Any Area [0]	<b>Pool(s)</b> No Pool Breakdown [0]
<b>Section</b> 33	<b>Township</b> 04N	<b>Range</b> 25W
<b>Latitude</b> 34.38745880	<b>Longitude</b> -119.50957489	<b>B&amp;M</b> SB
<b>County</b> Santa Barbara	<b>District</b> Coastal	<b>Onshore/Offshore</b> Onshore
<b>Datum</b> NAD 83	<b>Depth measurements referenced to</b> N/A	<b>Feet above ground</b> N/A
<b>Elevation above Sea Level</b> N/A	<b>Corner Call</b> N/A	
<b>Location Description</b> N/A		

Bottom Hole Location Information - Wellbore 0408304644-00

<b>Section</b> N/A	<b>Township</b> N/A	<b>Range</b> N/A
<b>Latitude</b> N/A	<b>Longitude</b> N/A	<b>B&amp;M</b> N/A
<b>Field</b> Any Field [0]	<b>County</b> N/A	<b>Corner Call</b> N/A

Current Associated Projects

Wellhead Equipment

Well Activity

PRODUCTION DATA

View All

I-109

(Mar 2020 - Present)

0	0	0
OIL (Bbls)	GAS (Mcf)	WATER (Bbls)

INJECTION DATA  
(Mar 2020 - Present)

[View All](#)

0	0	0
OIL (Bbls)	GAS (Mcf)	WATER (Bbls)

## Zones of Significance



Wellbore  
0408304644-00

**Type:**  
Oil & Gas

**Status:**  
Idle

**Drill/Spud Date:**  
N/A

**Completion Date:**  
N/A

**Bottom Hole (MD):** N/A  
**Bottom Hole (TVD):** N/A



Well Detail

Carpinteria Community 1 - API 0428304313

SummaryActions

<b>API Number</b> 0428304313	<b>Well Designation</b> Carpinteria Community 1	<b>Well Number</b> 1
<b>Operator</b> Thornbury Drilling Co.	<b>Well Type</b> Dry Hole	<b>Well Status</b> Plugged & Abandoned
<b>Active Permit</b> No	<b>Bond Number</b> N/A	<b>Confidential Well</b> No
<b>Confidentiality Expiration Date</b> N/A	<b>Lease</b> Carpinteria Community	<b>Surface Owner</b> N/A
<b>Mineral Owner</b> N/A	<b>Interested Federal Agencies</b> N/A	<b>Well Name</b> Unspecified
<b>Well Spud Date</b> N/A	<b>Exploratory Well</b> No	<b>Dry Hole</b> Y
<b>Status Date</b> 04/26/2018	<b>Initial Date of Production</b> N/A	<b>Directionally Drilled</b> No
<b>Fields(s)</b> N/A	<b>Areas(s)</b> N/A	<b>Pool(s)</b> N/A
<b>Well Classifications</b> N/A		

Surface Location

<b>Section</b> 33	<b>Township</b> 04N	<b>Range</b> 25W
<b>Latitude</b> 34.38871002	<b>Longitude</b> -119.50675201	<b>B&amp;M</b> SB
<b>County</b> Santa Barbara Offshore	<b>District</b> Coastal	<b>Onshore/Offshore</b> Onshore
<b>Datum</b> NAD 83	<b>Corner Call</b> N/A	
<b>Location Description</b> N/A		

Bottom Hole Location - Wellbore 0428304313-00

<b>Section</b> N/A	<b>Township</b> N/A	<b>Range</b> N/A
<b>Latitude</b> N/A	<b>Longitude</b> N/A	<b>B&amp;M</b> N/A
<b>Field</b> Any Field [0]	<b>County</b> N/A	<b>Corner Call</b> N/A

Current Associated Projects

Wellhead Equipment

Well Activity

PRODUCTION DATA  
(Jan 2021 - Present)

0

View All

I-111



OIL (Bbls)

0

0

GAS (Mcf)

WATER (Bbls)

## INJECTION DATA

(Jan 2021 - Present)

[View All](#)

0

OIL (Bbls)

0

GAS (Mcf)

0

WATER (Bbls)

## Zones of Significance

Wellbore  
0428304313-00**Type:**

Dry Hole

**Status:**

Plugged

**Wellbore Spud  
Date:**

N/A

**Rig Release Date:**

N/A

**Completion Date:**

N/A

**Depth Datum:**

N/A

**Feet Above Ground:**

N/A

**Elevation Above****Sea Level:**

N/A

**Wellbore Direction:**

Vertical



Well Detail

Well No. 2 - API 0408304328

Summary ▾

Actions ▾

<b>API Number</b> 0408304328	<b>Well Designation</b> Well No. 2	<b>Well Number</b> 2
<b>Operator</b> <a href="#">James F. Nugent Oil Co.</a>	<b>Well Type</b> Dry Hole	<b>Well Status</b> Plugged & Abandoned
<b>Active Permit</b> No	<b>Bond Number</b> N/A	<b>Confidential Well</b> No
<b>Confidentiality Expiration Date</b> N/A	<b>Lease</b> <a href="#">Well No.</a>	<b>Surface Owner</b> N/A
<b>Mineral Owner</b> N/A	<b>Interested Federal Agencies</b> N/A	<b>Well Name</b> Unspecified
<b>Well Spud Date</b> N/A	<b>Exploratory Well</b> No	<b>Dry Hole</b> Y
<b>Status Date</b> 04/26/2018	<b>Initial Date of Production</b> N/A	<b>Directionally Drilled</b> No
<b>Fields(s)</b> N/A	<b>Areas(s)</b> N/A	<b>Pool(s)</b> N/A
<b>Well Classifications</b> N/A		

Surface Location		
<b>Section</b> 33	<b>Township</b> 04N	<b>Range</b> 25W
<b>Latitude</b> 34.38901901	<b>Longitude</b> -119.51000977	<b>B&amp;M</b> SB
<b>County</b> Santa Barbara	<b>District</b> Coastal	<b>Onshore/Offshore</b> Onshore
<b>Datum</b> NAD 83	<b>Corner Call</b> N/A	
<b>Location Description</b> N/A		

Bottom Hole Location - Wellbore 0408304328-00		
<b>Section</b> N/A	<b>Township</b> N/A	<b>Range</b> N/A
<b>Latitude</b> N/A	<b>Longitude</b> N/A	<b>B&amp;M</b> N/A
<b>Field</b> Any Field [0]	<b>County</b> N/A	<b>Corner Call</b> N/A

Current Associated Projects ▸

Wellhead Equipment ▸

Well Activity

PRODUCTION DATA  
(Jan 2021 - Present)

0

[View All](#)

OIL (Bbls)

0

0

GAS (Mcf)

WATER (Bbls)

INJECTION DATA  
(Jan 2021 - Present)[View All](#)

0

OIL (Bbls)

0

GAS (Mcf)

0

WATER (Bbls)

## Zones of Significance

Wellbore  
0408304328-00**Type:**

Dry Hole

**Status:**

Plugged

**Wellbore Spud  
Date:**

N/A

**Rig Release Date:**

N/A

**Feet Above Ground:**

N/A

**Completion Date:**

N/A

**Elevation Above  
Sea Level:**

N/A

**Depth Datum:**

N/A

**Wellbore Direction:**

Vertical



Well Detail

Well No. 1 - API 0408304327

SummaryActions

<b>API Number</b> 0408304327	<b>Well Designation</b> Well No. 1	<b>Well Number</b> 1
<b>Operator</b> James F. Nugent Oil Co.	<b>Well Type</b> Dry Hole	<b>Well Status</b> Plugged & Abandoned
<b>Active Permit</b> No	<b>Bond Number</b> N/A	<b>Confidential Well</b> No
<b>Confidentiality Expiration Date</b> N/A	<b>Lease</b> Well No.	<b>Surface Owner</b> N/A
<b>Mineral Owner</b> N/A	<b>Interested Federal Agencies</b> N/A	<b>Well Name</b> Unspecified
<b>Well Spud Date</b> N/A	<b>Exploratory Well</b> No	<b>Dry Hole</b> Y
<b>Status Date</b> 04/26/2018	<b>Initial Date of Production</b> N/A	<b>Directionally Drilled</b> No
<b>Fields(s)</b> N/A	<b>Areas(s)</b> N/A	<b>Pool(s)</b> N/A
<b>Well Classifications</b> N/A		

Surface Location

<b>Section</b> 33	<b>Township</b> 04N	<b>Range</b> 25W
<b>Latitude</b> 34.39009094	<b>Longitude</b> -119.50997925	<b>B&amp;M</b> SB
<b>County</b> Santa Barbara	<b>District</b> Coastal	<b>Onshore/Offshore</b> Onshore
<b>Datum</b> NAD 83	<b>Corner Call</b> N/A	
<b>Location Description</b> N/A		

Bottom Hole Location - Wellbore 0408304327-00

<b>Section</b> N/A	<b>Township</b> N/A	<b>Range</b> N/A
<b>Latitude</b> N/A	<b>Longitude</b> N/A	<b>B&amp;M</b> N/A
<b>Field</b> Any Field [0]	<b>County</b> N/A	<b>Corner Call</b> N/A

Current Associated Projects

Wellhead Equipment

Well Activity

PRODUCTION DATA  
(Jan 2021 - Present)

0

View All

I-115



OIL (Bbls)

0

0

GAS (Mcf)

WATER (Bbls)

INJECTION DATA  
(Jan 2021 - Present)[View All](#)

0

OIL (Bbls)

0

GAS (Mcf)

0

WATER (Bbls)

## Zones of Significance

Wellbore  
0408304327-00**Type:**  
Dry Hole**Status:**  
Plugged**Wellbore Spud  
Date:**  
N/A**Rig Release Date:**  
N/A  
**Feet Above Ground:**  
N/A  
**Completion Date:**  
N/A  
**Elevation Above  
Sea Level:**  
N/A**Depth Datum:**  
N/A  
**Wellbore Direction:**  
Vertical

Well Detail

Carpinteria Community 1 - API 0408304313

Summary ▾

Actions ▾

<b>API Number</b> 0408304313	<b>Well Designation</b> Carpinteria Community 1	<b>Well Number</b> 1
<b>Operator</b> Thornbury Drilling Co.	<b>Well Type</b> Oil & Gas	<b>Well Status</b> Idle
<b>Active Permit</b> No	<b>Bond Number</b> N/A	<b>Confidential Well</b> No
<b>Confidentiality Expiration Date</b> N/A	<b>Lease</b> Carpinteria Community	<b>Surface Owner</b> N/A
<b>Mineral Owner</b> N/A	<b>Jurisdiction</b> N/A	<b>Well Name</b> Unspecified
<b>Spud Date</b> N/A	<b>Exploratory Well</b> No	<b>Dry Hole</b> N/A
<b>Status Date</b> 04/26/2018	<b>Initial Date of Production</b> N/A	<b>Directionally Drilled</b> No
<b>Well Classifications</b> N/A		

Location Information		
<b>Field</b> Any Field [0]	<b>Area(s)</b> Any Area [0]	<b>Pool(s)</b> N/A
<b>Section</b> 33	<b>Township</b> 04N	<b>Range</b> 25W
<b>Latitude</b> 34.38719940	<b>Longitude</b> -119.50733948	<b>B&amp;M</b> SB
<b>County</b> Santa Barbara	<b>District</b> Coastal	<b>Onshore/Offshore</b> Onshore
<b>Datum</b> NAD 83	<b>Depth measurements referenced to</b> N/A	<b>Feet above ground</b> N/A
<b>Elevation above Sea Level</b> N/A	<b>Corner Call</b> N/A	
<b>Location Description</b> N/A		

Bottom Hole Location Information - Wellbore 0408304313-00		
<b>Section</b> N/A	<b>Township</b> N/A	<b>Range</b> N/A
<b>Latitude</b> N/A	<b>Longitude</b> N/A	<b>B&amp;M</b> N/A
<b>Field</b> Any Field [0]	<b>County</b> N/A	<b>Corner Call</b> N/A

Current Associated Projects

▸

Wellhead Equipment

▸

Well Activity

PRODUCTION DATA

View All

(Mar 2020 - Present)

0	0	0
OIL (Bbls)	GAS (Mcf)	WATER (Bbls)

INJECTION DATA  
(Mar 2020 - Present)

[View All](#)

0	0	0
OIL (Bbls)	GAS (Mcf)	WATER (Bbls)

## Zones of Significance



Wellbore  
0408304313-00

**Type:**  
Oil & Gas

**Status:**  
Idle

**Drill/Spud Date:**  
N/A

**Completion Date:**  
N/A

**Bottom Hole (MD):** N/A  
**Bottom Hole (TVD):** N/A



Well Detail

Community 3 - API 0408304315

SummaryActions

<b>API Number</b> 0408304315	<b>Well Designation</b> Community 3	<b>Well Number</b> 3
<b>Operator</b> Thornbury Drilling Co.	<b>Well Type</b> Dry Hole	<b>Well Status</b> Plugged & Abandoned
<b>Active Permit</b> No	<b>Bond Number</b> N/A	<b>Confidential Well</b> No
<b>Confidentiality Expiration Date</b> N/A	<b>Lease</b> Community	<b>Surface Owner</b> N/A
<b>Mineral Owner</b> N/A	<b>Interested Federal Agencies</b> N/A	<b>Well Name</b> Unspecified
<b>Well Spud Date</b> N/A	<b>Exploratory Well</b> No	<b>Dry Hole</b> Y
<b>Status Date</b> 04/26/2018	<b>Initial Date of Production</b> N/A	<b>Directionally Drilled</b> No
<b>Fields(s)</b> N/A	<b>Areas(s)</b> N/A	<b>Pool(s)</b> N/A
<b>Well Classifications</b> N/A		

Surface Location

<b>Section</b> 33	<b>Township</b> 04N	<b>Range</b> 25W
<b>Latitude</b> 34.38806152	<b>Longitude</b> -119.50680542	<b>B&amp;M</b> SB
<b>County</b> Santa Barbara	<b>District</b> Coastal	<b>Onshore/Offshore</b> Onshore
<b>Datum</b> NAD 83	<b>Corner Call</b> N/A	
<b>Location Description</b> N/A		

Bottom Hole Location - Wellbore 0408304315-00

<b>Section</b> N/A	<b>Township</b> N/A	<b>Range</b> N/A
<b>Latitude</b> N/A	<b>Longitude</b> N/A	<b>B&amp;M</b> N/A
<b>Field</b> Any Field [0]	<b>County</b> N/A	<b>Corner Call</b> N/A

Current Associated Projects

Wellhead Equipment

Well Activity

PRODUCTION DATA  
(Jan 2021 - Present)

0

View All

I-119



OIL (Bbls)

0

0

GAS (Mcf)

WATER (Bbls)

## INJECTION DATA

(Jan 2021 - Present)

[View All](#)

0

OIL (Bbls)

0

GAS (Mcf)

0

WATER (Bbls)

## Zones of Significance

Wellbore  
0408304315-00**Type:**

Dry Hole

**Status:**

Plugged

**Wellbore Spud  
Date:**

N/A

**Rig Release Date:**

N/A

**Completion Date:**

N/A

**Depth Datum:**

N/A

**Feet Above Ground:**

N/A

**Elevation Above****Sea Level:**

N/A

**Wellbore Direction:**

Vertical



## **ATTACHMENT 2- Behrens and Associates Comments**

Hello Jenn,

I reviewed the table you have provided below and determined how the 3<sup>rd</sup> party consultant derived those values in the “increase, hourly” column. They utilized the lowest hourly ambient sound level during the daytime period and compared that value to the loudest hourly sound level from the predicted values at their corresponding receptors. This is an extremely conservative assessment considering there are no construction specific noise guidelines for the proposed site operations.

Using the 3<sup>rd</sup> party consultant’s methodology of taking the loudest predictive hourly sound level of the loudest phase of construction and comparing it to the ambient sound levels, it would be more reasonable to utilize the average daytime ambient sound level instead of the lowest sound level because there are some major differences hour to hour due to the constant passing of the train that is also part of the ambient noise. The predictive model we completed represents the loudest possible sound levels assuming that all equipment is running concurrently which is already a very conservative assessment. It should also be noted that the assessment completed by the 3<sup>rd</sup> party implies that the construction activities will remain for example at Receiver 12 at 69.2 dBA during the entire period of construction, which only occurs during Phase 2. Where Phase 1 and Phase 3 predictive sound levels results are 48.9 dBA and 54.1 dBA, respectively. Please let me know if you have any other questions and how I can further assist your team.

**Carol Colby**

Acoustical Engineer

**Behrens and Associates · Environmental Noise Control**

13806 Inglewood Avenue | Hawthorne, California | 90250

Office 310 679 8633 · Direct 424 456 7102 · Fax 310 331 1538

[www.environmental-noise-control.com](http://www.environmental-noise-control.com) | [www.drillingnoisecontrol.com](http://www.drillingnoisecontrol.com)

**From:** Jennifer Leighton <[jleighton@padreinc.com](mailto:jleighton@padreinc.com)>

**Sent:** Wednesday, January 24, 2024 12:02 PM

**To:** Carol Colby <[ccolby@baenc.com](mailto:ccolby@baenc.com)>

**Cc:** Simon Poulter <[spoulter@padreinc.com](mailto:spoulter@padreinc.com)>; Jeff Obermeyer <[jobermeyer@baenc.com](mailto:jobermeyer@baenc.com)>

**Subject:** RE: Noise Study

Hi Carol – Thanks again for getting back to me and working on this. Below is a link to the City’s EIR. The Section dealing with Noise written by their 3<sup>rd</sup> party consultant is under the file named 2\_2128\_Draft-EIR-Chevron-Carpinteria-Decommissioning, in Section 4.10 (Noise and Vibration). That will give you background information on what they used from your report in terms of ambient baseline measurements.

 [https://crystahl-my.sharepoint.com/:f/g/personal/jleighton\\_padreinc\\_com/EmmkCZYhPp1HoYwYHxwuqLsB\\_VPrAmTW/EVDFSq4kMfwXYw?e=JX4aJ1](https://crystahl-my.sharepoint.com/:f/g/personal/jleighton_padreinc_com/EmmkCZYhPp1HoYwYHxwuqLsB_VPrAmTW/EVDFSq4kMfwXYw?e=JX4aJ1)

If you could review the table below in relation to the City thresholds, that would help use prepare a response to submit back to the City in terms of accuracy of the conclusions in the Section.

Thanks much,

Jenn Leighton  
Senior Project Manager  
**Padre Associates, Inc.**  
1861 Knoll Drive  
Ventura, CA 93003  
Cell: (805) 479-2075

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## **ATTACHMENT 3 – Matrix of Comments on the DEIR**

### ATTACHMENT 3

#### Matrix of Comments on the DEIR

Comment #	Section	Page	Chevron Comment(s)
Executive Summary			
ES-1	ES.2	ES-4	Chevron appreciates the City's deletion of the sentence: "Tier 1 Environmental Screening Levels for residential uses (or equally protective contaminant-specific, agency approved levels) provide the standard for on-site soil remediation, consistent with Chevron's clean up objectives." This sentence was incorrect and inconsistent with the Project Description described in the Executive Summary (ES.2) and the Project Objectives (2.2). As noted below in Comment I-1, the Introduction (1.1) should be corrected to also delete this sentence. In addition, the City should ensure that the copy of the DEIR uploaded to the State Clearinghouse contains both corrections to Sections ES.2 and 1.1.
ES-2	ES.5.2, ES.6.2.2	ES-6, ES-11, ES-12	<p>Pre-existing baseline conditions (that is, conditions which existed prior to issuance of the Notice of Preparation for the EIR) are part of the environmental setting, not impacts of the project subject to the alternatives and mitigation provisions of CEQA. CEQA Guidelines § 15125. "Impacts" under CEQA are limited to <i>changes</i> in the pre-project environment that are attributable to the project. CEQA Guidelines §§ 15126.2(a), 15126.6. The environment includes "both natural and man-made conditions." CEQA Guidelines § 15360.</p> <p>However, the Full Removal Alternative inappropriately includes actions to address three pre-existing baseline conditions: seven legacy wells for which Chevron is not legally responsible, natural seeps which are natural parts of the environment, and the Hazel and Hilda pipeline bundle which was abandoned in place decades ago as approved by the State Lands Commission. All three are pre-existing baseline conditions which the Proposed Project will avoid and not disturb, and should not be included in the Full Removal Alternative.</p>
ES-3	ES.5.2, ES.6.2.2	ES-6, ES-11, ES-12	An EIR is required to consider a reasonable range of feasible alternatives which would avoid or substantially lessen the project's significant environmental impacts. CEQA Guidelines § 15126.6. Remediation of baseline and natural conditions unrelated to the Proposed Project is not a reasonable alternative, where doing so would not avoid or substantially lessen any significant environmental impact attributable to the Proposed Project. As discussed above, existing conditions are baseline conditions, not Proposed Project impacts.
ES-4	ES.5.2, ES.6.2.2	ES-6, ES-11, ES-12	In addition, the reasonable range of alternatives evaluated in an EIR must feasibly attain most of the basic objectives of the project. CEQA Guidelines § 15126.6. As stated in Section ES.3, Objectives of the Project (pp. ES-4 - 5), "the Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of any impacted soils connected to activities from the Onshore Facility to accommodate the site's potential future redevelopment." Including legacy wells and natural seeps unconnected to activities of the Onshore Facility, or to

			the applicant-proposed objectives listed on p. ES-5, in the Full Removal Alternative does not address Project objectives.
ES-5	ES.5.2, ES.6.2.2	ES-6, ES-11, ES-12	<p>Alternatives evaluated in an EIR must be feasible, taking into account (among other things) legal factors. CEQA Guidelines §§ 15126.6(a), (c), 151364. The legacy well component of the Full Removal Alternative would be legally infeasible because it would conflict with state law. Under Public Resources Code §§ 3108.1 and 3237(c) the current or former operator is responsible for abandoning or (if the integrity of a previously abandoned well is in question) reabandoning such wells. If the responsible operator is unknown or has inadequate financial resources, the state may undertake abandonment – not the property owner. Pub. Res. Code § 3237(c)(5). A property owner which is not a current or former operator of previously abandoned wells may become responsible if well integrity is disturbed, or access to the well is blocked, by new construction proposed by the property owner. Pub. Res. Code § 3108.1(b).</p> <p>As described in Table 4.7.1, the seven legacy wells on the property date from 1913 to 1951; five of the seven are plugged dry holes. Since Chevron never operated the legacy wells which were present on the Project site prior to Chevron's acquisition of the property, and the Proposed Project will not disturb their integrity or block access, under state law Chevron has no responsibility for those wells. See Attachment 1 identifying the historic operators of the legacy wells.</p>
ES-6	ES.5.2, ES.6.2.2	ES-6, ES-11, ES-12	<p>Feasibility also takes into account technological factors. CEQA Guidelines § 15364. It is technologically infeasible to remediate natural oil seeps which have been ongoing for thousands of years. There is no evidence of successful efforts to remediate natural seeps. Attempts to cement over natural seeps in southern California have resulted in seeps moving around the cement cap. (Padre Associates, personal communication.) According to the National Oceanic and Atmospheric Administration, natural seeps release oil slowly over time and allow ecosystems to adapt, in contrast to the rapid release of large quantities of oil in a human-caused oil spill. See <a href="https://oceanservice.noaa.gov/facts/oilseep.html">https://oceanservice.noaa.gov/facts/oilseep.html</a></p>
ES-7	ES.5.2, ES.6.2.2	ES-6, ES-11, ES-12	<p>Adding the legacy wells and natural seeps to the Full Removal Alternative would potentially cause additional environmental impacts and require additional mitigation associated with work unrelated to the Proposed Project. The DEIR (pp. ES-11 – 12) acknowledges additional impacts under the Full Removal Alternative including GHG emissions; aesthetic, noise and traffic impacts; and potential releases during work on legacy wells. While the DEIR characterizes these additional impacts as minor and/or temporary, they still constitute impacts that would not occur or would be reduced with the Proposed Project.</p> <p>In addition, since the Full Removal Alternative has impacts that would not occur or would be reduced with the Proposed Project, it is not correct to identify the Full Removal Alternative as the environmentally superior alternative. (See Comment ES-12.)</p>

ES-8	ES.5.2, ES.6.2.2	ES-6, ES-11, ES-12	<p>In addition, the Full Removal Alternative includes removal of the Hazel and Hilda pipeline bundle, which was associated with the previously decommissioned Platforms Hazel and Hilda.</p> <p>Like the legacy wells and natural seeps, the presence of the pipeline bundle is an existing baseline condition. As the DEIR acknowledges (p. 5-5), the State Lands Commission approved abandonment of these pipelines in place during the platform decommissioning project. Prior to abandonment in place, the pipelines were cleaned by flushing and running a “pig” through the lines to remove all hydrocarbons, and filled with grout to a distance of 800 feet offshore from the bluff. See the State Lands Commission’s August 3, 1994 Mitigated Negative Declaration for the Abandonment and Removal of Four Offshore Oil Platforms, Santa Barbara County (MND), p. 2-27. As such, these pipelines pose no ongoing risk of release.</p> <p>Including the Hazel and Hilda pipeline bundle in the Full Removal Alternative would also cause additional impacts associated with additional removal work. As explained in the MND (p. 2-27), the Hazel and Hilda pipelines were abandoned in place to “minimize environmental impacts associated with removal operations [so that] no disruption of the beach or bluff face will occur. . . . [A]bandonment in place poses no significant risk or hazard and, thus, represents the environmentally superior alternative to the disruption caused by removing the lines across the beach.”</p>
ES-9	ES.5.2, ES.6.1.2	ES-6, ES-11, ES-12	<p>For these reasons, Chevron requests that the City revise the Final EIR to delete the Full Removal Alternative, and analyze only the proposed Project and the No Project Alternative. CEQA does not require an EIR to analyze more alternatives than the No Project Alternative in all cases; whether to do so must be evaluated based on the facts and circumstances of each project. In this case, the proposed Project is not a typical industrial development project but a decommissioning and remediation project that includes no new facilities. The typical range of alternatives for reducing a development project’s environmental footprint (such as a smaller facility or different location) does not apply.</p> <p>The Full Removal Alternative does not even qualify as a proper EIR alternative under CEQA Guidelines § 15126.6(a), as it would not avoid or substantially lessen the Project’s significant impacts. On the contrary, each of its three components would result in increased impacts compared to the existing conditions baseline. Nor would the Full Removal Alternative attain most of the Project objectives identified in the DEIR, p. 2-1.</p>
ES-10	ES.6.1.2	ES-9	<p>An EIR may discuss a project’s environmental and other benefits. CEQA (Pub. Res. Code) § 21082.4; CEQA Guidelines § 15124. The DEIR includes Section ES.6.1.2 on “Beneficial Class IV Impacts” but incorrectly states that no beneficial impacts are associated with the Project. Demolition and removal of aboveground facilities and remediation of contamination should be considered as project benefits. In discussing the No Project Alternative, the DEIR (p. ES-10) acknowledges that eliminating visible industrial equipment in a scenic area and removing contaminated soil under existing facilities would be beneficial. For the same reason, beneficial Class IV impacts from the Proposed Project should be recognized in Section ES.6.1.2.</p>



ES-11	ES.6.2.1	ES-10 – ES-11	The statement that “The No Project Alternative also would not address the seven idle wells within the property and those wells could potentially leak in the future and result in impacts to biological resources and water resources as with the proposed Project” is incorrect for two reasons. First, the wells are an existing baseline condition and their continued presence under the No Project Alternative is not an environmental impact under CEQA. Second, the existing wells will not be affected by the Proposed Project and any future leaks from those wells would not be an impact of the Proposed Project.
ES-12	ES 6.2.2, ES.7	ES-11, ES-12, ES-13	<p>If the City elects to retain the Full Removal Alternative (in its entirety or in part), its impacts (ES.6.2.2) and determination of the Environmentally Superior Alternative (ES.7) should be re-evaluated.</p> <p>Table ES.3 demonstrates increased impacts from the Full Removal Alternative (which includes the Proposed Project plus additional components) compared to the Proposed Project alone. While the DEIR (pp. ES-11 – 12) characterizes these additional impacts as minor and/or temporary, they still constitute impacts that would not occur or would be reduced with the Proposed Project. Yet the Full Removal Alternative was selected as the Environmentally Superior Alternative. It appears that the reason the DEIR identifies the Full Removal Alternative as environmentally superior is that it incorrectly treats baseline conditions (natural seeps, legacy wells and the Hazel and Hilda pipeline bundle) as impacts of the Proposed Project, which (at least in theory) would be eliminated under the Full Removal Alternative. (As noted above, it is not feasible to eliminate natural seeps.) However, these baseline conditions are not impacts of, and would not change as a result of, Chevron’s proposed project. Moreover, as noted above, there is no ongoing risk of releases from the Hazel and Hilda pipelines, which ceased transporting oil and were cleaned and flushed decades ago, as part of the 4H Platforms decommissioning. Thus, the Full Removal Alternative would not avoid or reduce any impacts that are properly treated as impacts of the Proposed Project, while Proposed Project would avoid or reduce the greater temporary impacts of the Full Removal Alternative. Accordingly, the Proposed Project and not the Full Removal Alternative should be identified as the Environmentally Superior Alternative.</p>
Introduction			
I-1	1.1	1-1	Delete the sentence: “Tier 1 Environmental Screening Levels for residential uses (or equally protective contaminant-specific, agency approved levels) provide the standard for on-site soil remediation, consistent with Chevron’s clean up objectives.” This sentence is incorrect and inconsistent with the Project Description described in the Executive Summary (ES.2), the Project Objectives (2.2) and the corrected Executive Summary (ES.2).
Project Description			
PD-1	2.5.3.2	2-38	Table 2.1 correctly indicates Project Initiation in April 2024, consistent with the updated schedule. The text on p. 2-38 preceding Table 2.1 should be revised to change the October 2023 start date assumption to April 2024, consistent with the table. Please note that Chevron anticipates additional revisions to its proposed execution schedule given the potential timing of the Final EIR and certification close to or after April 2024.

PD-2	2.7.1	2-42	DEIR describes the City's intent to meet with CalGEM to discuss guidance on the existence of the legacy wells. The Final EIR should describe any guidance provided by CalGEM. Under state law, Chevron has no responsibility for legacy wells which Chevron did not operate and which the Proposed Project will not disturb (see comments above regarding the Full Removal Alternative).
Air Quality			
AQ-1	4.2	4.2-15 (Table 4.2.5)	The table columns are mislabeled: the 4th column (labelled CO in the DEIR) should be labeled PM10, the fifth column (labelled SO2 in the DEIR) should be labeled PM2.5, the sixth column (labeled PM10 in the DEIR) should be labeled CO, and the last column (labeled PM2.5 in the DEIR, but with numbers which duplicate the column labeled NOx) should be deleted.
AQ-2	4.2	4.2-15 (Tables 4.2.5 and 4.2.6)	The air pollutant calculations for the maximum 12-month period are based on implementation of Task/Areas 4 through 7 in a 12-month period. Based on the revised project schedule (Table 2.10), demolition and remediation of the Main Plant Area (Area 6) and MSRC Lease Area (Area 7) would not occur in the same 12-month period therefore the maximum 12-month emissions must be recalculated.
Biological Resources			
BR-1	4.3.1.1	4.3-23	Table 4.3.3, Special-Status Wildlife Species, Cooper's hawk has also recently been observed foraging in the Main Plant Area. We suggest deleting "in Buffer Zone".
BR-2	4.3.1.2	4.3-32	Pelagic Habitats and Resources - The text cites Padre 2021c (Marine Biological Study) as the source of information. However, Padre 2021c did not reference fish trapping surveys or 2015 oil platform surveys mentioned in this paragraph. Please provide the source for this information. Fish assemblages that are common on oil platforms were not observed during ROV surveys of, nor are they expected to occur around, Project facilities in the Project site.
BR-3	4.3.1.2	4.3-34	Special-Status Marine Species - there are no special-status bird species that would breed in the offshore Project site.
BR-4	4.3.1.2	4.3-34	Special-Status Marine Species - The text cites Padre 2021c (Marine Biological Study) as the source of information. However, Padre 2021c did not include or reference aerial surveys for marine mammals. Please provide the source for this information.
BR-5	4.3.4	4.3-50	The DEIR states "The Applicant has prepared several plans and documents identifying measures to avoid and minimize impacts to biological resources during Project construction, including the Tree Maintenance and Hazard Reduction Plan". However, this plan was developed in concert with the City to address a public safety issue resulting from storm damage to specific trees following a recent storm event. This work was completed with removal of all of the identified damaged trees, as approved by the City, and the public safety issue has been resolved. There is no overlap between the completed removal of specific damaged trees under the plan and the new removal of other trees proposed for the Project. Reference to this Plan should be deleted from the DEIR, as it does not apply to and has no bearing on the Project being evaluated.
BR-6	4.3.4	4.3-52-53	Cooper's hawk: Recent sightings of Cooper's hawk have occurred in and around the IR Building (Main Plant Area) hunting rock pigeon, which are introduced and are not protected by the MBTA. Suggest adding: "Building removal will result in a beneficial impact to eliminate the attractive nuisance of rock pigeon to these buildings and eliminate the potential for Cooper's hawks to be

			inadvertently entrapped inside these buildings while hunting." This would be a Class IV beneficial impact of the proposed Project.
BR-8	4.3.4	4.3-55	Habitat Restoration/Revegetation Plan - requires inclusion of shoreline and offshore habitat. See #2 of Bio.1b. The impact analysis finds no significant impact to these habitats. In the absence of significant impacts requiring mitigation, they should not be included in the Habitat Restoration/Revegetation Plan.
BR-9	4.3.4	4.3-56	Bio.1b, 8(d) – The mitigation measure requiring a guarantee that imported fill material is 100% weed free is infeasible. Available fill source locations typically have non-native herbaceous vegetation growing on them. Soil from sites with completely native vegetation may not be available and borrowing soil from such sites would create additional undue impacts to native communities. Soil treatment is the only feasible method of avoiding weed seeds in fill material. In addition, treatment is only applicable to soil used for site surface restoration, not to buried fill in larger excavations, which is too deep to be a source of weeds. We suggest revising the second sentence to state: "All imported fill used for site surface restoration will undergo standard weed control treatments prior to collection and import of soil to the Project Site. Upon completion of final contouring, follow-up weed control treatments described above in Mitigation Measure Bio 1b, 8(a) will be implemented to ensure the post-project control of non-native vegetation establishment."
BR-10	4.3.4	4.3-59	Bio.1e – Several mitigation measures require surveys, training and oversight by a qualified biologist approved by the City. However, in some cases it is unclear whether the measures also require separate approval by other agencies for using a particular biologist specifically for this Project. There is no need for separate agency approval to use a qualified biologist for this Project, since to be "qualified" requires that the biologist must have appropriate training and experience and must be approved by regulatory agencies for conducting this type of survey, training and oversight. For clarity, we suggest revising MM Bio.1e to delete "and agency" and refer to a "Qualified City-approved biologist", consistent with MM Bio.1c.
BR-11	4.3.4	4.3-60	Bio.1g – For clarity, the location of Project-related activities north of the train tracks should be excluded from the 1,000-foot buffer of the haulout/rookery, so that decommissioning of the Main Plant Area and Chevron Pipeline Area (Tank 861) can proceed during the pupping season (Dec 1-May 31). Those activities would not have any impact on seals on the beach, while precluding them during the pupping season would extend the Project schedule with potentially increased impacts.
BR-12	4.3.4	4.3-61	Bio.1.h – Consistent with Bio.1c, we suggest revising to refer to a "qualified City-approved wildlife biologist"; see Comment BR-10 above.
BR-13	4.3.4	4.3-65	To avoid confusion, Mitigation Measure Bio.3.c, requiring compensatory wetland mitigation, should be revised to clarify that the compensatory wetland replacement shall not occur in any area (e.g., the buffer zone) which will be revegetated with other vegetation under MM Bio.1.b.9.
BR-14	4.3.4	4.3-68	Figure 4.3-10, Tree Inventory Map. The Figure provided shows close, but not exact locations of trees, and the figure cuts off the southernmost portion of trees slated for removal. For the record, a more accurate inventory map is attached as Attachment 4 to these comments.

<b>Cultural Resources</b>			
CR-1	4.4.1	4.4-26	In Table 4.4.3, the Former Sandblast Area should not be marked as located within CA-SBA-6, consistent with the cultural technical study (see Project Application Appendix F, pages 6-1 and 6-14). There is no potential Project impact to CA-SBA-6 in this area.
CR-2	4.4.3	4.4-27	Cul.1.a reads "Prior to the approval of any plan or issuance of any permit, the Cultural Resources Management Plan (CRMP) shall be submitted to the City for review and approval." Read literally, this appears to require approval of the plan prior to approval of the plan. Moreover, no separate permit is required. For clarity, this measure should be revised to state: "Prior to ground disturbance, the Cultural Resources Management Plan (CRMP) shall be submitted to the City for review and approval."
CR-3	4.4.4.4	4.4.-30-31	Cul.2.a.2 and Cul.2.b – It is inappropriate to require that "Chevron or their representative shall notify the Native American representative of the identification of human remains." The Native American Heritage Commission designates the Most Likely Descendant (MLD); neither Chevron or its representatives can assume who the MLD will be. As drafted in the DEIR, Mitigation Measures Cul.2.a.2, 2.a.4, 2.b.3 and 2.b.3 are inconsistent with state law, California Public Resources Code §5097.98 (Notification of Native American human remains, descendants; disposition of human remains and associated grave goods). Section 5097.98 specifies that the Native American Heritage Commission is responsible for identifying and notifying the MLD when the county coroner notifies the Commission of the discovery of Native American human remains. The mitigation measures should be revised to state that the county coroner will contact the Native American Heritage Commission which will notify the MLD as provided by state law, and to remove the requirement for Chevron to notify the MLD.
<b>Geology and Soils</b>			
GS-1	4.5.3	4.5-6-7	A Stormwater Management Plan has been approved and is already in place at the Project Site, which should be referenced here.
<b>Climate Change</b>			
CC-1	4.6	4.6-18, Tables 4.6.4 and 4.6.5	The GHG emissions for the maximum 12-month period are based on implementation of Task/Areas 4 through 7 in a 12 month period. Based on the revised project schedule (Table 2.10), demolition and remediation of the Main Plant Area (Area 6) and MSRC Lease Area (Area 7) would not occur in the same 12-month period. Therefore, the maximum 12-month GHG emissions must be recalculated (Tables 4.6.4 and 4.6.5)
<b>Hazardous Materials</b>			
HM-1	4.7.4	4.7-13, 4.17-14, 4.17-15	Impact Haz.2 – The Legacy Wells are a part of the Environmental Setting baseline conditions and are excluded from the proposed Project. No activity performed by the applicant as part of the Proposed Project will disrupt or cause this baseline condition to change. The statement in the DEIR, pp. 4.7-14 -15, suggesting "that there would be an increase in hazards associated with leaving the wells in place" does not refer to an impact of the Proposed Project and does not belong under Impact Haz.2. The potential for leakage from these wells, as well as future potential spill impacts from future activities that may be undertaken by other parties which may disturb the wells at some unknown future date, are not impacts of the Proposed Project.



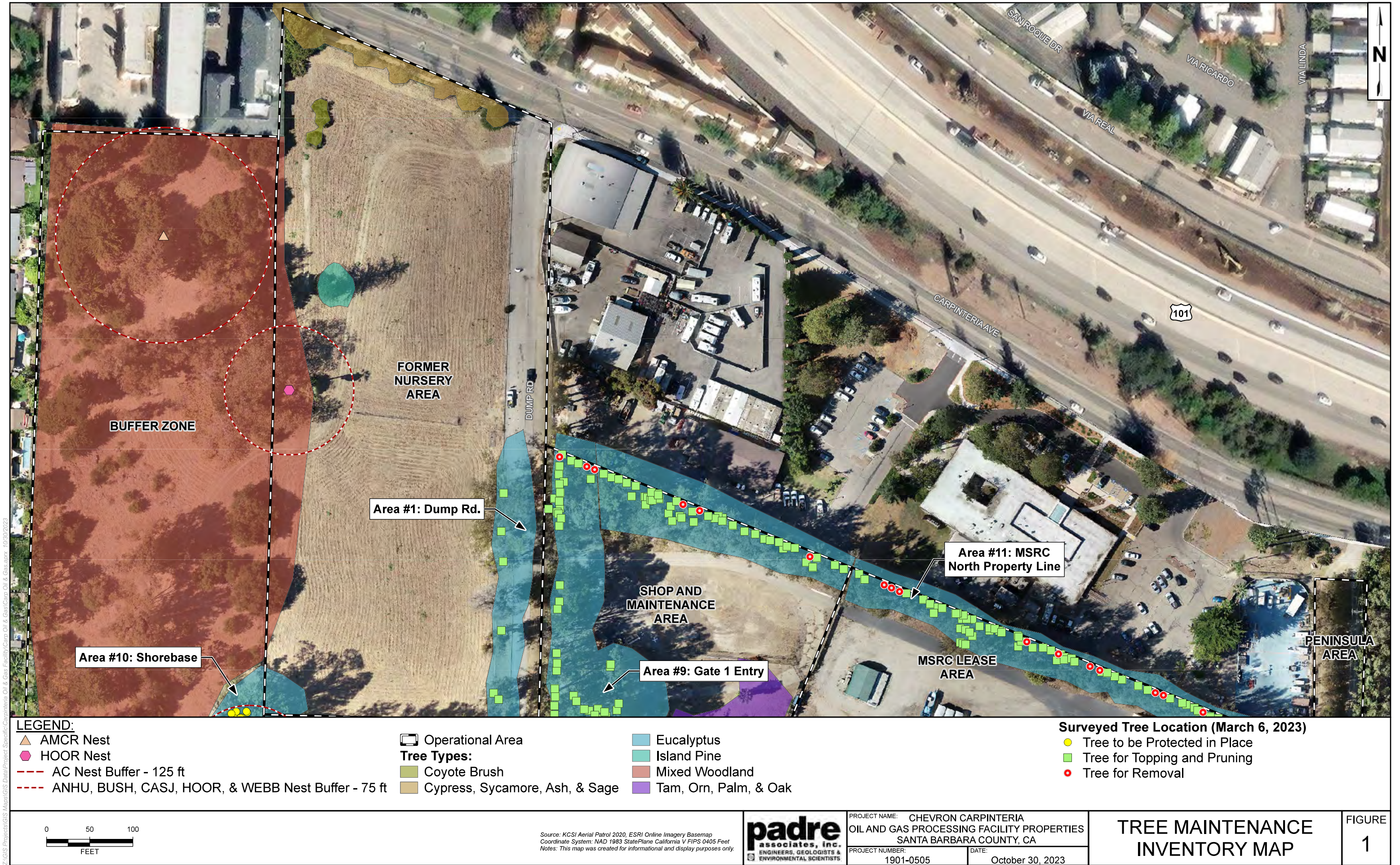
			As discussed in comments above and in Chevron's comment transmittal letter, baseline conditions are not subject to CEQA review and mitigation requirements and should be deleted in the Final EIR discussion of Impact Haz.2. The legacy wells should be discussed (if at all) in the Environmental Setting section 4.7.1 only.
HM-2	4.7.4	4.7-14, 4.17-15	Similarly, the oil seeps are a baseline and natural condition that would not be affected by the Proposed Project, not an impact of the Project. The reference to the oil seeps should be deleted from Impact Haz.2 and discussed (if at all) in the Environmental Setting section 4.7.1 only.
Hydrology			
HY-1	4.8.4	4.8.9	A Stormwater Management Plan has been approved and is already in place at the Project Site, which should be referenced here.
Noise and Vibration			
N-1	4.10.4	4.10-24	<p>The DEIR analysis of noise impacts N.1 and N.2 is based on Table 4.10.8, which is based on the noise assessment prepared by consultants Behrens and Associates, Inc, (2023). Behrens has reviewed the DEIR and noted that it uses a different methodology than their study; see Attachment 2.</p> <p>According to Behrens, the DEIR uses overly conservative assumptions in the calculations when estimating noise levels during decommissioning operations, utilizing the lowest hourly ambient sound level during the daytime period and comparing that value to the loudest hourly sound level from the predicted values at the corresponding receptors. The DEIR's approach fails to take into account the fact that peak sound levels on the site typically are a result of high baseline traffic noise from the 101 corridor and the additional periodic noise from the adjacent railroad corridor. The DEIR presents an extremely conservative assessment that is not based on any construction-specific City noise guidelines. Given the baseline conditions, it would be more reasonable to utilize the average daytime ambient sound level instead of the lowest sound level, because there are major differences from hour to hour due to the constant passing of trains which contribute to ambient noise.</p> <p>The predictive model used in the Behrens 2023 noise study represents the loudest possible sound levels, assuming that all equipment is running concurrently, which is already a highly conservative assumption. Applying the Behrens noise study assumptions, the Project will not result in exceedance of the City's noise thresholds even when using conservative estimates, and impacts are therefore less than significant; no mitigation is required.</p> <p>Chevron does not object to Mitigation Measure N.2b since the Project does not propose to conduct onshore nighttime construction. However, Mitigation Measure N.2a, which requires installation of noise barriers and the removal of safety sound alerts to mitigate noise impacts, is unnecessary and should be removed.. Mitigation is required only for impacts determined to be potentially significant because they exceed significance thresholds, not for impacts found to be less than significant. CEQA Guidelines § 15126.4(a)(3).</p>

N-2	4.10-4	4.10-24	In addition, the requirement to remove safety sound alerts (back-up beepers) should be deleted from the noise mitigation. Removal of these sound alerts is infeasible, as doing so would present safety issues for workers onsite when heavy equipment is present.
N-3	4.10-4	4.10-24	In the alternative, if the overly conservative assumptions of the noise analysis are retained, MM N.2.a should be revised to expressly require noise barriers and limit noise activities only in the locations where noise is projected to exceed significance thresholds in DEIR Table 4.10-8, or is demonstrated to exceed thresholds by noise monitoring at residences. For example, the DEIR assumes that Receiver 12 will be exposed to noise at 69.2 dBA during the entire period of construction, but this occurs during Phase 2. In Phase 1 and Phase 3, the predictive sound levels results are 48.9 dBA and 54.1 dBA, respectively. Chevron requests that the City allow a noise monitoring plan that would employ noise barriers to the extent necessary if/when noise was expected to exceed allowable thresholds, but not throughout construction activities.
N-4	4.10-4	4.10-25	As the DEIR indicates, Chevron proposes to work onshore up to 10 hours per day, i.e., during daylight hours (p. 2-38), but nighttime construction may be necessary in the surf zone (p. 4.10-24). To protect residences, MM N.2b prohibits nighttime noise-generating construction activities, but does not expressly limit this prohibition to onshore construction. MM N.2b should be revised to clarify that it does not apply to nighttime construction in the surf zone or offshore.
Tribal Cultural Resources			
TCR-1	4.12.1	4.12-1	The DEIR states, "However, Project impacts are not proposed within the portions of the Former Marketing Terminal Area, the Chevron Pipeline Area, and the Pier Parking Lot Area that contain intact cultural deposits." The reference to the Former Marketing Terminal Area in this sentence is not supported by the results of Padre's cultural resources report (see Project Application Appendix F, page 7-1), which does not identify intact cultural deposits within the Former Marketing Terminal Area. All deposits observed in the Former Marketing Terminal Area were in disturbed contexts.
Alternatives			
A-1	5.3	5-4 and 5-9	See comments above and in Chevron's comment transmittal letter regarding the exclusion of legacy wells from the "Full Removal Alternative."  In addition, the DEIR asserts that the legacy wells "present a potential risk of future spills and contamination." To our knowledge, the 5 wells that are listed as "plugged dry holes" on Table 4.7-1 have not had their abandonment integrity tested. The City's assertion that they "present a potential risk of future spills and contamination" is speculative.
A-2	5.3	5-4 and 5-9	See comments above and in Chevron's comment transmittal letter regarding the exclusion of naturally occurring oil seeps from the "Full Removal Alternative." The DEIR references naturally occurring seeps as having the potential to leak in the future. Seeps, by nature, are actively leaking and have for thousands of years. There is no technologically feasible means of remediating natural seeps resulting from natural geological conditions (see Comment ES-6 above).

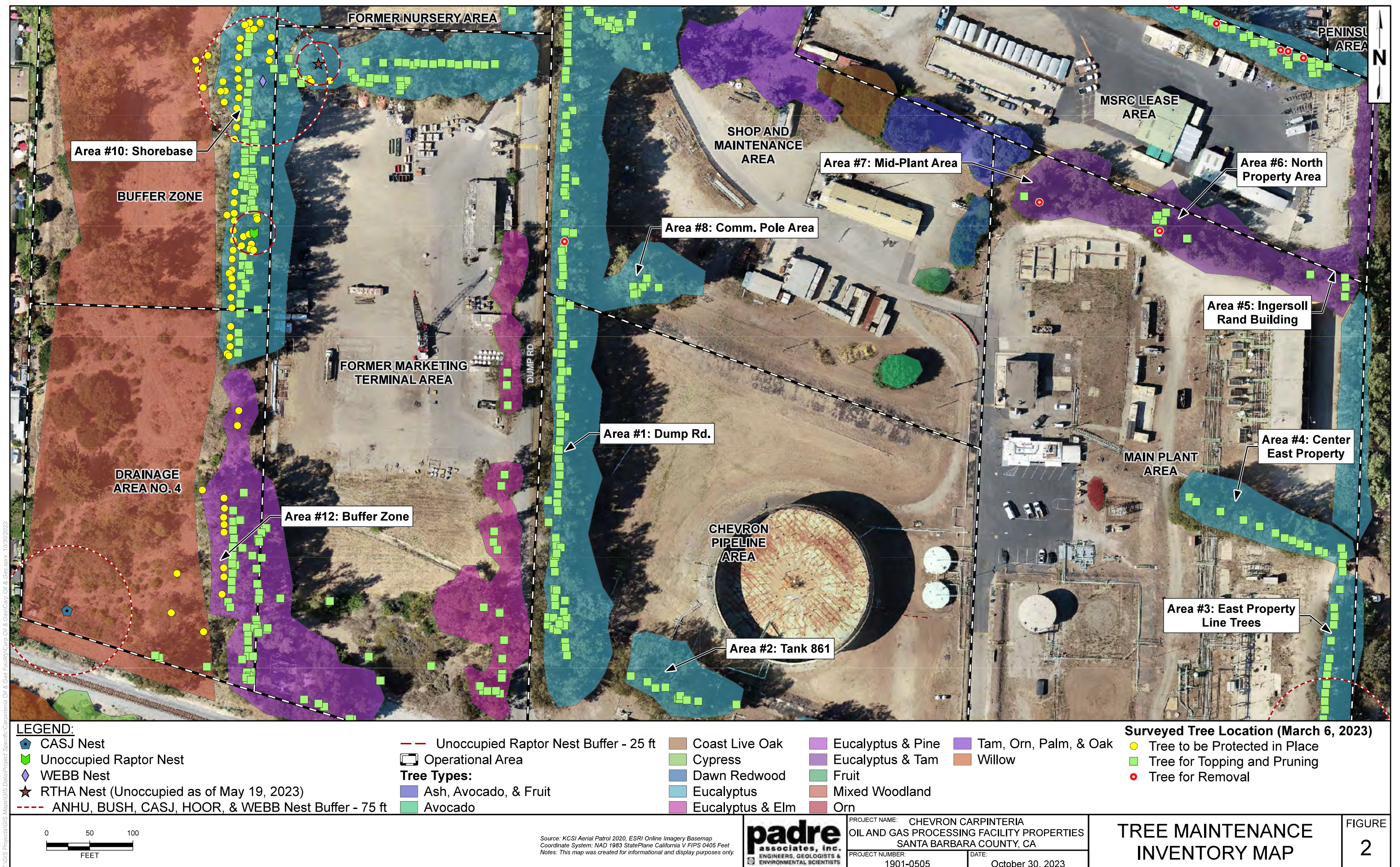
A-3	5.3, 5.4.2	5-6, 5-10	See comments above and in Chevron's comment transmittal letter regarding the exclusion of the Hazel and Hilda pipeline bundle from the "Full Removal Alternative" and evaluation of the No Project Alternative as the only alternative.
A-3	5.3	5-8-9	The "No Project Alternative" describes a scenario where facilities would remain in place but remediation would likely still have to occur. In this description, the DEIR indicates that cleanup would not be fully possible with facilities in place, which could cause contaminants to "...potentially leach into underground water resources." This reference to "water resources" may suggest to readers that the No Project Alternative could affect sources of drinking water. The DEIR should be revised to clarify drinking water aquifers would not be impacted since no drinking water aquifers are present on the Project Site.
A-4	5.4.2	5-10	The "Full Removal Alternative" describes a future where natural oil seeps would be addressed, but fails to describe how this would occur or the impacts that would result from such efforts. There is no evidence that feasible methods exist for eliminating natural oil seeps (see Comment ES-6 above). Natural oil seeps are a baseline condition that would not be disturbed by the project, and therefore should not be included in the proposed Alternatives.
A-5	5.5	5-11 – 5-13	Alternatively, if the City elects to retain the Full Removal Alternative (in its entirety or any of its components), the Final EIR should reevaluate the Environmentally Superior Alternative. Tables ES.3 and 5.2 demonstrate increased impacts from the Full Removal Alternative, yet the Full Removal Alternative was selected as the Environmentally Superior Alternative. Since these additional impacts would not occur or would be reduced with the Project, the Project should be considered environmentally superior to the Full Removal Alternative. It appears that the reason the DEIR identifies the Full Removal Alternative as environmentally superior is that it addresses baseline conditions (natural seeps and legacy wells). However, these baseline conditions are not impacts of, and would not change as a result of, Chevron's proposed Project. Moreover, as noted above, there is no ongoing risk of releases from the Hazel and Hilda pipelines, which ceased transporting oil and were cleaned and flushed decades ago, as part of the 4H Platforms decommissioning. Since the Full Removal Alternative includes the entire Proposed Project plus additional removal work with associated impacts, the Proposed Project without those added impacts is environmentally superior to the Full Removal Alternative.

## **ATTACHMENT 4 – Tree Inventory Map**

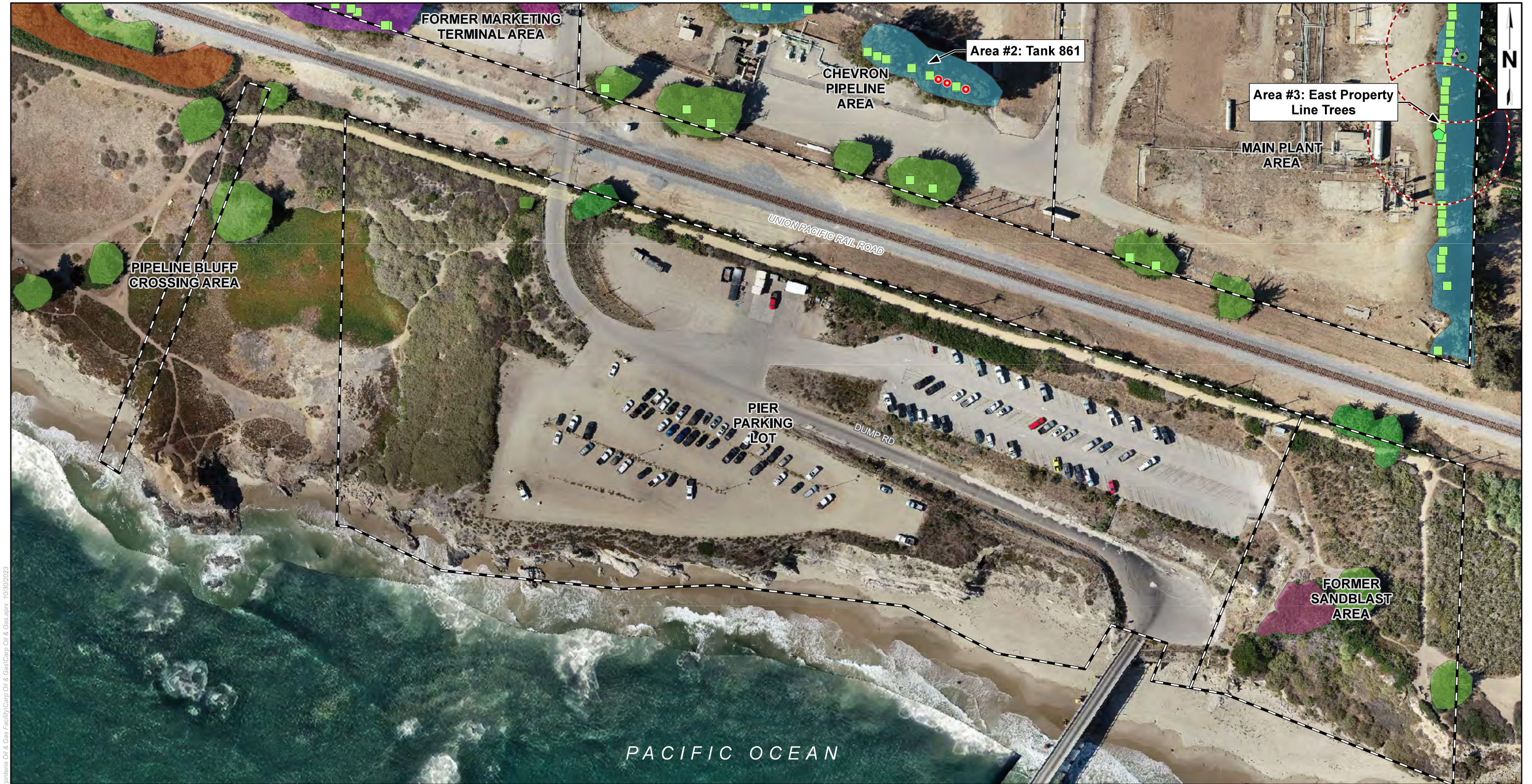












**LEGEND:**

- ANHU Nest
- BUSH Nest
- LEGO Nest
- ANHU, BUSH, CASJ, HOOR, & WEBB Nest Buffer - 75 ft
- Operational Area

**Tree Types:**

- Arroyo Willow Thicket
- Cypress
- Eucalyptus
- Eucalyptus & Elm
- Eucalyptus & Pine
- Mixed Woodland
- Sycamore
- Willow

**Surveyed Tree Location (March 6, 2023)**

- Tree for Topping and Pruning
- Tree for Removal



Nick Bobroff  
January 31, 2024

Dear Mr. Bobroff,

I am writing today to communicate some collective thoughts regarding the Draft Environmental Impact Report for the Chevron Decommissioning Project. This perspective comes from a place of desiring assurances that the protection of biological resources is a top priority of the project all while maintaining public access to our trail network and the coast.

CCB-1

**Public Access**

The decommissioning project should always protect public access to the coastal bluff trails and between the parks east and west of Chevron property. Public use must be maintained and open on the City trail east of Tar Pits Park through the Chevron property, on the trail created by Venoco on Chevron property leading from the City trail at the Union Pacific Railroad (UPRR) crossing. If decommissioning work closes Dump Road, a parallel alternate route from Carpinteria Avenue through Chevron property must be provided.

CCB-2

**View corridor, raptor, nesting birds, and monarch butterfly protections**

Except as necessary for personnel and public safety there should be no additional tree trimming or removal. Views from the bluffs and bluff trails from Tar Pits Park to Viola Fields must be preserved. Information given at the Environmental Review Committee meeting indicated the baseline population of monarchs and raptors is now higher than at the surveys for the DEIR, further analysis and observations are warranted.

CCB-3

**Harbor Seals**

The local harbor seal population and colony has seen diminishing numbers over the past decade and all work which could affect the seals should be done in a manner that maximizes their protection, and should include mitigation measures designed to improve their habitat by reducing disturbances year round—not just reducing unavoidable disturbances caused by decommissioning work. We would suggest a more robust marine mammal mitigation monitoring plan with additional staff and experts to advise on the appropriate protections of this sensitive resource.

CCB-4

**Drainage**

Drainage from the northwest corner of the Carpinteria Bluffs Nature Preserve is carried by pipeline(s) under the current TeeTime lease area to Chevron property, as we understand. The pipe capacity and locations may not be accurately known, and impacts to blockage or rerouting need to be properly evaluated as this stormwater is conveyed across the Chevron properties with ultimate outfall in the southwest corner of the area known as the Buffer Zone Area (BZA) on Chevron property.

We appreciate the opportunity to comment on this activity and are grateful for the efforts you and your staff are taking to ensure impacts are kept to a minimum and temporary in nature.

Cheers,

*Patrick Crooks*

**Patrick Crooks**

President, Citizens of the Carpinteria Bluffs



Nick Bobroff

---

**From:** Stephanie Turcotte <meer367@gmail.com>  
**Sent:** Wednesday, January 31, 2024 1:40 PM  
**To:** Nick Bobroff  
**Subject:** Oil Processing Facility Decommissioning & Remediation/Carpenteria

**\*\*EXTERNAL EMAIL\*\***

**CAUTION:** This email originated from outside the City of Carpinteria. DO NOT OPEN attachments or CLICK on links unless you are sure they are safe. Remember, reputable vendors, banks, etc. will not ask you to disclose passwords or other sensitive information.

To Whom it May Concern:

STE-1

As a full-time resident living on the central coast of CA, I feel it is important to support efforts in areas north and south of us along the coast of California, which are trying to preserve and protect precious natural and cultural resources. Pacific Grove, CA has its own share of battles on behalf the environment and the indigenous people to whom the land once "belonged", but no battle has been quite as monumental as the one being fought presently in Carpinteria, CA. I am referring to the controversy over the oil and gas facility which operated for 65 years and thereby impacted the land and everything around it. Anything that can be done to help stop, maybe even reverse, the negative impact of the oil industry's destructive practices in one area of our California coast will benefit the Earth as a whole.

I write in support of decommissioning the oil processing facility located in Carpinteria, CA and any necessary remediation to help heal the land impacted by years of operation. I support this for many reasons. One reason is that I am a CA Naturalist who has done volunteer conservation work in Pacific Grove, CA as an educational monarch docent and as a Black Oystercatcher monitor for the last 12 years. I am aware of how fragile our coastline is and how wildlife is constantly being challenged to adapt to a changing climate and an increase in negative human impact. Secondly, I used to live and teach in Southern California and often worked with the Chumash in Malibu, CA to teach students about how the Chumash lived along the coast and the surrounding areas. Lastly, as a resident of southern CA, I often made the drive from Ventura County to Carpinteria to experience that special stretch of beach with family and friends. There really is no place like it.

It takes all of us standing together to influence positive change. I hope that my voice lends a hand to this effort in particular.

Sincerely,

Stephaime Turcotte Edenholtm

Pacific Grove, CA resident

Nick Bobroff

---

**From:** Jon <jonlewis.usa@gmail.com>  
**Sent:** Friday, January 19, 2024 7:51 PM  
**To:** Nick Bobroff  
**Subject:** Unclear how to submit comments on Chevron decommissioning project, and a comment

**\*\*EXTERNAL EMAIL\*\***

**CAUTION:** This email originated from outside the City of Carpinteria. DO NOT OPEN attachments or CLICK on links unless you are sure they are safe. Remember, reputable vendors, banks, etc. will not ask you to disclose passwords or other sensitive information.

Hi,

Unclear how to do this - no info on City website here: <https://carpinteriaca.gov/city-hall/community-development/oil-gas-information/oil-processing-facility-decommissioning/> . The City email newsletter points to this page and says that public comments are accepted until January 31 but the page has no obvious link or place to submit such comments, and the upcoming meeting information points to last December's meeting.

Here's a short public comment:

JL-1

The description of the Technical Studies, section I - Facilities not included in project, doesn't address the power poles, electrical wiring, communications wiring (some which is abandoned and hanging down off the support wire strung between poles), and the small fenced transformer area and associated infrastructure that runs parallel to the coastal trail easement to the North and South (in the case of the transformer area) of the trail. It is unclear if this infrastructure is needed once the Chevron site is decommissioned. It may be powering the pier and offshore infrastructure, but it's not addressed so that's unknown. The coastal trail would be greatly visually enhanced by removal of the poles and transformer area if they are no longer needed. The stuff is old and is a visual blight. If they must remain, at least the communications wiring that appears to be abandoned along with other rusty abandoned components could be removed.

If it's not the direct responsibility of this project to address this, perhaps it is SCE and Frontier, but in any event, it should be mentioned in Section I and at least the desires of the City to address the potential removal, burial of the lines, or other solutions should be considered by whomever owns it, as clearly expressed by the City and in conformance with the General Plan.

Thanks,

/s/ Jon Lewis, Carpinteria CA

## Comments - Draft EIR - Decommissioning ~ Dec 15, 2023

### Notes, Suggested Corrections & Comments ~

- CKL-1** 4.3-16 *Mammals*  
*No entry re Nearshore & offshore setting*  
Harbor Seal should be included in this section with information re the rookery (City Ordinance Closing Beach, data collection over past 32 years, etc.)
- CKL-2** 4.3-28 *Mammals*  
Harbor Seal ? not mentioned ~
- CKL-3** 4.3.1.2 Nearshore and Offshore Setting  
Maybe what is needed is a special category early in this section of the document such as -  
**Onshore and offshore setting for Marine Mammals**
- CKL-4** 4.3-31 Project Site is located **EAST** of “JellyBowl” (beach) and **EAST** of TarPits Park which is located above “JellyBowl”.
- CKL-5** *Marine Mammals and Sea Turtles*  
Should read Pacific harbor seal **DOES** occur in the study area
- CKL-6** *TABLE 4.3.4 Special Status Marine Species*  
In this table entry Pacific harbor seal Present.  
“Rookery and haul-out site present in Project area on east **and WEST** side of Casitas Pier.  
(note harbor seals often haul out on rocks to west of pier, counts are recorded by SealWatch)  
Also, harbor seals haul out on the rocks off the Carpinteria State Beach campground.  
  
Table should include Elephant Seal Pups - which are observed (though not often in the rookery and “beach closed” area.
- CKL-7** 4.3-53  
Must change... The Harbor Seal Rookery **is not abandoned** in the summer.  
The harbor seals use the rookery all year long. Some of the highest counts recorded have been during the summer months when the seals are moulting. Though disturbed by humans during the summer days the seals haul out at night as tides permit.  
  
noise & light ~ important to consider at every part of the project. Chevron has done a good job of keeping any light from shining down on seals in rookery area. Being mindful of keeping noise & lighting at lowest impact level to both seals, residential neighbors, etc. is best practice.
- CKL-8** 4.3-54  
Re **pipeline removal** under water noise, etc expected to take **2 months** and applicant thinks the impact will not substantially change populations of marine mammals.... thus this is considered **less than significant** in this document. This assumption may be incorrect.  
The Harbor seal colony size has diminished considerably over the past 5 years. Any change in the current population realistically must be considered significant. The colony offers the public a rare opportunity to view wild mammals and their cyclical evolution (mating, birthing, molting) in their natural habitat. It is a treasure not to be lost.

CKL-8

To minimize impact consider scheduling the pipeline removal for August, September, October & November. And start out with minor aspects of this activity, limiting the amount of time, noise, movement of people and equipment in the vicinity of the seals. Gradually increase. Always leave night time hours dark and quiet. Always respect the tides.

CKL-9

#### 4.3 Biological Resources

##### Bio.1g Haarbor Seal Rookery Monitoring and Protection

*#3. Prior to the initiation of the Project, personnel shall be given marine wildlife sensitivity training. This training shall include specifics regarding Project restrictions, operational limits,, and ingress/egress methodology. The crews shall be instructed to wear neutral colored clthing,, and to move slowly during ingress/egress as well as minimize hand gestures or signals uring work activities to avoid startling the harbor seals.*

I have observed Chevron, the colony of Harbor Seals in the Carpinteria Rookery, and the public co-exist for 32 years. The seals seem able to become accustomed to activities and noises gradually over time. Putting marine wildlife sensitivity (as described in #3 above) in the forefront of the planning and execution of ever phase of the Decommissioning project will increase substantially the likelihood of success for all in both the Project immediate area and adjacent vicinity.

If each particular part of the entire project starts out slowly, all affected will become accustomed and less fearful. Project parts done in small daily time frames, small doses of noise, dust, underwater disturbance, etc. ... in a gradual way ... will cause less frightening impacts and will eventually finalize a successful completion.

Respectfully,  
C Kathleen Lord



Comments on the Chevron Decommissioning DEIR Dated November 2023

December 17, 2017  
Susan Mailheau, DVM

**SM-1** Having considered the impacts of Decommissioning, and the proposed mitigations in the MRS DEIR and basing comments regarding the harbor seal on the 2021 Padre analysis, subsequently referred to in this letter as the Report, it is obvious to me that very little effort was made by Padre to understand the resident *Phoca vitulina richardsi* in general, and allow for the continued survival of this endemic colony. This is in addition to other shortcomings with regard to other biological species (raptors, owls, monarchs, and the trees - Windrows specifically - that these species rely on for habitat.\* (See Bio.3 page 153)

**SM-2** In the introduction of the Executive Summary, noise and vibrations are among the significant environmental impacts to be expected.  
Impacts on seals I would expect:  
In ES.2  
Impacted soil and ground water activities alone will likely disrupt their normal activity  
Subsurface disturbances will be high to achieve Tier 1 levels.

**SM-3** Under Biological Resources of the ES, Table ES.5 Class II impacts is listed Bio1g.: Harbor Seal Rookery Monitoring and Protection, the proposal is stated that it can be mitigated to less than significant. Under the Proposed mitigations this is an untrue statement because it overlooks factors that either are false or were not yet know about harbor seal biology. I suggest it be moved to a Class I because of potentially significant and unavoidable impacts to this Federally Protected species, and to their habitat, the Essential Fish Habitat in general.

I will go on to specify details of Padre oversights and make an attempt to cite pertinent passages in the Report, beginning p164 4.3.1.2.

**SM-4** 1. The foremost inaccuracy is that the Report states the seals abandoned The Carpinteria Harbor Seal Rookery seasonally. Chevron plans to focus work June through November:  
According to p. 1854.3—49  
“The project is expected to require 670 days of work over a three-year period beginning April 2024 and ending June 2026...” “...potential direct impacts to terrestrial biological resources [of which hauled out seals should be included] (if work occurs at night),..which could result in injury, death, or displacement of wildlife...”  
  
On page 189. 4.3-53 the comment is written “The harbor seal rookery is largely abandoned in the summer and fall, due to unrestricted, seasonal public assess and beach activities, which will correspond to when the proposed beach and offshore Project activities will occur; there Project activities associated with pipeline removal are not expected to cause incidental harassment of Pacific Harbor Seal...”

SM-4 This displays ignorance of the fact that harbor seals haul-out daily year-round when foot traffic and/or tides permit.! When seals are flushed to the water they can other be seen circling the crescent rocks waiting for a critical mass of seals haul-out.!

SM-5 Other highlight of the species overlooked by Padre in this Report is that after pups are weaned, which can be as late as April, May or later!, the females go into estrus and become receptive to males.\*

SM-6 2. Work at night  
The Report states that....(see above)  
More oversights:  
- Unlike most pinnipeds, mating in this species occurs underwater and have elaborate vocalizations,  
- Because it occurs after weaning mating may occur during the June to November work focus.  
- sound carries great distance underwater  
- The mother seals are wholly dependent on hearing her own pup's call after any separation.\*\*

SM-7 Key  
\* Climate Change and Greenhouse Gas Emissions, stated to be Impact Classification III, are among the 5 MajorDrivers of the extinction event we are currently experiencing per the Intergovernmental Science Policy Platform on Biodiversity (IPBES) Chair, Sir Robert Watson. It is strongly suggested that Chevron study this to realized that the primary driver is "changes in land and sea", and the 3rd major driver is Climate Change. No increase is insignificant.

Attachment 1.

! My own personal logs kept in bound notebooks year-round dating back to 2019.j. The book dated 2019 was at the start of the Pandemic, and scans are made only of the dates that fall in the period outside of the closure. All bound data for all months until present is available on request.

!! Harbor Seal Species Profile. Copies were made and distributed

\*\* These statements are readily available in peer-reviewed publications.

on 8/29/19

listen to recording

6<sup>30</sup> 6-7 seals on rocks

only 15'-8' sand remained  
after high tide

Beached was then flushed to  
seals on rocks

7<sup>08</sup> 2 Seals tried to return  
(1 small) tried to  
go ashore. Pier noise. Sealed  
- one may have been the  
wounded seal 6" in  
front of (R) fore flipper

Susan Mail  
5512 Calle A  
Carpinteria,

Susan Mail  
5512 C  
Carpinteria

Susan Mailheau  
5512 Calle Arena  
Carpinteria, CA 93013

Susan  
5512 C  
Carpinteria



on 8/29/19

listen to recording

638

6-7 seals on rocks

only 15'-8' sand remained  
after high tide

Beached walkers flushed to  
seals on rocks

708

2 Seals tried to return

(1 small) tried to

go ashore. Pier noise scared them

— one may have been the  
wounded seal 6" in  
front of (R) fore flipper

Susan Mailheau  
5512 Calle Arena  
Carpinteria, CA 93013

Susan  
5512 C  
Carpinteria



9/3/19

6<sup>30</sup> 39

7<sup>30</sup> 7

Emma said she'd watch for  
wadded pup since I'd be out  
of town 9/4 - 9/8

9/11

Heard from Shirley and  
Emma that there were  
over a hundred on beach

Susan Mailheau  
5512 Calle Arena  
Carpinteria, CA 93013

Susan  
5512 C  
Carpinteri

9/12

6:45

18 on sand near rocks  
~3 may be this  
year's pup

7:30

~9 none flushed,  
just several foraging

Saw a coyote on the trail just  
before reaching the look out.

Susan Mailheau

5512 Calle Arena  
Carpinteria, CA 93013

Susan Mail

5512 Calle  
Carpinteria, CA

Susan

5512 C  
Carpinteri

ach  
sed

9/19

168

9/26/19

68 mixed adults + pups  
from this year all  
tightly surrounded by adults  
Tracks of a recent flush  
to sea

Left at 7<sup>30</sup> AM, Tide 3.4  
not passable  
misty

on phone

Susan Mailheau  
5512 Calle Arena  
Carpinteria, CA 93013



9/20/9

~ 7<sup>15</sup> AM Tide ~

West Blue Heron on rocks

168 peaceful seals on beach

one large dark adult had  
raised wound on back (like a  
deglavering wound?) appeared  
superficial

Movement of large blue crane on  
turnaround at bottom of ramp

disturbed ~ a dozen seals -  
didn't flush

Several flushed at another  
commotion

I walked to East end - sign not up  
yet. Irish W. + other dog off beach.

26 seals remained when I left  
@ ~ 8 AM, tide passable 3'.

Gogger ran through sanctuary

Several photos taken

Susan Mai  
5512 Calle A  
Carpinteria, CA

Susan  
5512 C  
Carpinter

Susan Mai  
5512 Calle  
Carpinteria, CA

Susan Mailheau  
5512 Calle Arena  
Carpinteria, CA 93013



10/4/19

7:30 Low tide

156 seals on beach  
at H tide 10' x 20' dry sand

- foot prints - many
- dog prints from a large dog

10/8/19

9:30

just after H tide  
4.0'

96 adults + some pups

Great Blue Heron

Gulls

Several very large  
(pregnant?)

ach

sed

10/15/19 Tues ~7AM

150 seals on beach

Susan  
5512  
Carpinte

10/19/19 Sea ~ 7:30 Rising tide 3+ feet

55 seals, 1 adult with fresh wound  
behind @ front flipper  
Saw 2 Osprey on bluffs

10/4/19

7:30 Low tide

156 seals on beach  
at Hi tide 10' x 20' dry sand

- foot prints - many
- dog prints from a large dog

10/8/19

9:30

just after HI tide  
4.0'

96 adults + some pups

Great Blue Heron

Gulls

Several very large  
(pregnant?)

10/15/19 Tues ~7AM

150 seals on beach

Susan Mailheu  
5512 Calle Arena  
Carpinteria, CA 93013

10/19/19 Sat ~7:30 Rising tide 3+ feet  
55 seals, 1 adult with fresh wound  
behind (R) front flipper  
Saw 2 Osprey on bluffs



10/21 ~ 7:35 Hi Tide

97 seals - all appeared healthy  
some very thin

10/29 Hi tide

124, a few had injuries

Susan Mail  
5512 Calle A  
Carpinteria, CA

Susan Mailheau  
5512 Calle Arena  
Carpinteria, CA 93013

11/17/19 ~ 7:30 AM

126 at higher tide

11/24/19 7 AM Tide, Hi 6.4 @ 7:30

85 seals

Audio notes

11/26/19 8:30 Hi tide 6.

No seals - no beach  
one in water

Susan Mail  
5512 Calle A  
Carpinteria, CA

Susan Mail  
5512 Calle A  
Carpinteria, CA

Susan Mail  
5512 Calle A  
Carpinteria, CA

12/2

146 on beach including  
the one with a snare  
around neck  
one or 2 had whiskers  
with wavy, curled  
ends

note - high tides are  
getting higher

Susan Mailheu  
5512 Calle Arena  
Carpinteria, CA 93013

12/9 76 Seals - Seal w/ stricture  
around neck on beach w/ ach  
allies but face is now swollen  
Left Phone mag for Ruth

Susan Mail  
5512 Calle  
Carpinteria, CA

12/10 74 seals Hi Tide 8 AM sed  
Seal w/ very H:  
beginning on beach  
Left text mag for Ruth

Susan  
5512  
Carpinteria

12/10 From Jelly bowl At 1:44 boat pulled  
to pier for 1 man to disembark. Seals on  
rocks took note. Low tide at 2<sup>30</sup> of minus  
0.4. Current  $\pm 0.5$  + possible



12/14 8<sup>30</sup> AM High Tide  
High Surf - no  
beach  
No seals

At 4 PM Low tide  
Spectator said there  
were 10 seals until  
a jogger ran thru

12/15 Hi tide in AM

Susan Mai  
5512 Calle  
Carpinteria, CA

12/19 AM

Recorded on phone

94 on beach including  
"collared" seal  
comprants

Susan Mailheu  
5512 Calle Arena  
Carpinteria, CA 93013

ach

sed

# Low Tide monitoring JB

12/24

12/25 Many groups

Look out 12-

12/25 133 Many visitors  
many with dogs

12/26

12/27 JB + Lookout - 22 seals  
Brought Letesha from JB to see seals

12/28

Look out 8 AM almost high

(hi is 5.9 at 10)

Visitors Aninta and Van? Stan?

both very interested

Mike (local) + Dylan (Ventura)

many others → camera/tv/tech

Seal w/ ligature scratching at  
face

Several seals injured - one has

bashed up face + Rt eye

another has cuts + scrapes

Susan Mailheau  
5512 Calle Arena  
Carpinteria, CA 93013



12/29/19

12/31

1/1/2020

SW Vol.

counted ~75

" " Curt counted 80+

LOW TIDE Me. E

1/5 Dog chased 88 seal into sea

1/7 72 hi count, incursion in spite of sign E

1/8 44

Beach

Closed

1/11 132

1/12 60 at PM

1/13

1/15 44

1/16 88

5/23 No birds seen  
Several in the  
Several seen near  
waiting to return

5/29 From Linda 11<sup>AM</sup> 5

seen  
email Lucy 1<sup>30</sup> - 3<sup>30</sup> 3 in rookery  
none at 3<sup>30</sup>

5/30 R + S a Lookout 6<sup>30</sup> AM 10<sup>AM</sup>  
adults 149, Pups 12,  
juniors at 12 - no seals  
at 4 25 had returned

5/31

Susan Mailheau  
5512 Calle Arena  
Carpinteria, CA 93013

6/2 148 Adults 7 pups - several  
had been flushed by helicopter

6/3

50 A 7 pup

6/4 143 A 7 pups see notes Rookery 4/4



6/13 Adults 62 Eggs 6 from 12

6/15 Adults 1  
Pups 8

6/16 See counts - email photo

6/17 Adults 141 Pups 12

6/18 Adults 83  
Pups 8

6/22 Adults 71 large dark brown neck  
entanglement

Pups 13 ~~3-4~~ appear very small

6/23 7<sup>15</sup> AM Tide 0.5, Low was Hi was 6.2

6/24 Est. ~30 - 100% flushed before I could  
count. Steady stream of people.

SM-8

These considerations are offered on behalf of a rare mainland rookery that is currently compromised. I offer these comments to demonstrate that the DEIR does not adequately understand and mitigate for the indigenous harbor seal colony – a species that is federally protected by the Marine Mammal Protection Act. My request is that Chevron fully decommissions its facilities **excluding** the area that is protected by the City for the harbor seals, and merely caps Gail and Grace Pipeline Bundles until such a time as the City and the Harbor Seal Advisory Committee can secure and stabilize this colony or make provision for establishing it as a Marine Protected Area.

The report states that:

- **Project Timing:** It will be a priority of the Project to schedule activities outside of the pupping season. However, there is the potential the proposed decommissioning Project activities will occur for a short period during the period that the beach is closed to the public. Project activities adjacent to the rookery during pupping season (December 1 through May 31)\* will be minimized to the maximum extent feasible to conduct pipeline decommissioning activities.
- **Screen:** The screen will be placed, maintained, and removed in a manner and at times that avoid disturbance to seal present on the beach; for example, placing it before first light on the first day of work and removing it after last light on the final day of work.

Seals have an acute sense of smell, vision, and hearing. It is highly unlikely that this screen will avoid disturbing the seals.

Additionally, it was stated in the Padre report: During previous repair and construction work around the rookery, harbor seals have been exposed to disturbances including vehicle and boat sounds, machinery, hammering or grinding on the pier, vibratory pile driving and crane activities, and concrete demolition.

I made counts and observations during recent repair work that did show disturbances that were not documented.

Any presence or work during the pupping period will cause a Level B and possibly Level A disturbance. The seals will abandon their pups. Outside of the pupping season the work being done either on land or underwater will alarm them into abandoning their natal site temporarily if not permanently. In either case, the failure of Chevron to fully account for the rookery that predates them will not earn the goodwill of the public.

Seal facts and requirements that were not addressed in the DEIR (references available):

### **Sensory perception**

- **Hearing** – the report focuses on the maximum decibels (loudness) but does not address pitch. Seals are sensitive to, and depend on, frequencies that are far above the upper threshold of humans. This means that sounds of machinery can mask those they need to hear (a pup's call or mating songs) or can even be harmful. (The proposed machinery for removal of the concrete armoring alone will require concrete saws and/or jack hammers.). Sound carries for miles underwater regardless of the loudness of the sound.
- **Vision** - Seals sink to the sea floor and wait for prey to pass during their foraging. Animals that evolved to see in very little light in the ocean's depth will be alerted to motion, reflection, shadows, and silhouettes of any predator's (workers) presence and will therefore leave the rookery area before its own presence is known.
- **Touch** – The hydrodynamic sense\*\*. Their vibrissae can detect and follow hydrodynamic waves which they depend on for foraging, navigating, and predator evasion. Mechanical equipment will disrupt the wakes of fish which scientists speculate seals follow almost 200 yards.
- **Smell** – the scents left by seals provides them with a form of social media whereby each seal is aware of the species, sex, individual identity, reproductive status, age, stress level, and nutritional status of the others. Conversely, workers on land and in water will leave scents of predators.

### **Life History**

- **Mating** – occurs after weaning of pups. If work underwater drives off the most dominant males and most experienced females the reproductive cycle for the entire next year is compromised.
- **Pupping "season"** is more variable in this colony than is indicated in the Padre report. Some recent years have had births through May. These pups are not likely to be weaned by the planned start of Chevron work.
- **Molting** – a process that takes place after mating and is often the time when the seals depend most heavily on the beach. Their blood supply is diverted to the surface and significant heat loss can occur.
- **Storing nutrients** to sustain gestation and prepare for the birth of pups the next season takes place from late summer through parturition. This requires mother seals to feed then haul-out to digest food. Failure to adequately prepare for the pup's development is thought to be one of the causes of mortality in pups (70% of mortality in pups is estimated to be due to undernourishment). Again, strong site fidelity in female harbor seals presents a survival threat to our population when beach disturbances are constant and severe.

Pups must survive to reproductive age (4-7 years old) to maintain the equilibrium of a stable population. But our colony is declining for reasons we (HSAC) are currently investigating. Every pup lost and every adult seal made to suffer chronic stress will challenge the population of one and all.

SM-8

Please give these seals your utmost effort for the following reasons:

- They are a federally protected sentinel species for the Channel Islands ecosystem
- They serve as a draw for thousands of visitors, and add to our City's economic base
- They are among the species which have been adversely affected by the fossil fuel industry nation-wide and populations affected have in some cases never recovered.

Please modify your plans to take these oversights into account.

Dr. Susan Mailheau

1/30/24

\* I have logs dating over five years that prove the seals depend on this rookery year-round.

\*\*Whiskers of harbor seals have an undulating surface to reduce the effect they have on the wake they follow. This evolutionary adaptation – unique to harbor seals - is evidence of their importance to the seals' mode of life and consequently, anthropomorphic alterations of the targets' wakes will leave the seals greatly impaired in foraging, navigating, and predator evasion.



**Nick Bobroff**

---

**From:** Randall Moon <rtm.beach@outlook.com>  
**Sent:** Saturday, December 16, 2023 12:10 PM  
**To:** Nick Bobroff  
**Subject:** for CHEVRON

**\*\*EXTERNAL EMAIL\*\***

**CAUTION:** This email originated from outside the City of Carpinteria. **DO NOT OPEN** attachments or **CLICK** on links unless you are sure they are safe. Remember, reputable vendors, banks, etc. will not ask you to disclose passwords or other sensitive information.

**Re: DEIR Chevron Decommissioning Program**

I am writing to comment on the Harbor Seal Rookery ninbutirunbg and protection plan. Suffice it to say, the plan is unacceptable and pursuing this project will result in the loaa of this rare and irreplaceable asset. Specific details follow:

- RM-1 1. The pipes to be removed go right through the rookery and there is no way to remove them without the seals responding by flushing in terror. They will stay in the area a day or two but will leave permanently when they see they ongoing human activity.
- RM-2 2. The proposal says it will restrict activity during the beach closure of December 1 to May 31. This overlooks that this 5 month closure does not correlate with anything to do with seal biology—it is not a window identifying periods of altered sensitivity to disturbances. The seals sensitivity to being harmed by decommissioning activity is year-round.
- RM-3 3. Having a Marine Wildlife Monitor oversee the effects on htje sals is meaningless unless the peroson is hired and pis by a 3rd party, independent from Chevron.
- RM-4 4. Seal Watch coordination is meaniingless. This group involves volunteers talking to visitors to the bluffs to try to educate visitors about the basics of seals. The group does not have expertise in harbor seal biology and involvement should be restricted to counting seals. Restated, any assessment of harbor seal responses during decomissionining needs outside experts
- RM-5 5. The proposal implies that as long as the project avoids pupping months that it will be ok to engage in the project. **THIS IS NOT TRUE. DISTURBANCES THROUGHOUT THE ENTIRE YEAR . iN PIUBLISHED STIUDIES DISTURBANCES PROMOTE ELEVATED STRESS HORMONES WHICH IMPACTS REPRODICTION AND THE IMMUNE SYSTEM.** Disturbances deprive seals of needs rest, and increases predation by sharks.

Randall Moon  
5512 Calle Arena  
Carpinteria



714 Bond Avenue  
Santa Barbara, CA 93103  
805.563.3377

January 22, 2024

**Via Electronic Mail**

Nick Bobroff, Community Development Director  
Carpinteria City Hall  
5775 Carpinteria Avenue  
Carpinteria, California 93013

[nickb@carpinteriaca.gov](mailto:nickb@carpinteriaca.gov)

**Re: Draft Environmental Impact Report for the Decommissioning and Remediation of the Chevron Carpinteria Oil and Gas Processing Facility Project**

Dear Mr. Bobroff,

We appreciate the opportunity to comment on the Draft Environmental Impact Report (EIR) for the Decommissioning and Remediation of the Chevron Carpinteria Oil and Gas Processing Facility Project (Project).

Santa Barbara Channelkeeper is a 501c3 environmental non-profit organization dedicated to protecting and restoring the Santa Barbara Channel and its watersheds through science-based advocacy, education, field work, volunteer engagement, and enforcement. We work from the Gaviota Coast to the Ventura River, and out to the Channel Islands. Channelkeeper has been active in advocating for and monitoring the watersheds and coastal waters of Carpinteria for over 20 years.

**SBC-1**

We are writing to show our support for the Full Removal of Facilities Alternative. The Project as proposed does not remove all oil and gas infrastructure and fully remediate the terrestrial and marine environment to its natural state. It is imperative that these legacy oil and gas facilities are capped and completely cleaned up in the scope of this project. Failing to address all areas while the remediation is taking place could lead to future negative impacts to both onshore and offshore environments, as well as pose threats to public health. The Full Removal of Facilities Alternative will prevent or minimize the potential of future oil spills, long term cleanup costs to the City of Carpinteria, risks associated with runoff, long term impacts to the Harbor Seal

**SBC-1** Rookery, and the potential for further negative environmental effects associated with future remediation.

**SBC-2** We are concerned with the impact of this project on the Harbor Seal Rookery. The federal Marine Mammal Protection Act prohibits harassing or disturbing marine mammals in the wild, and the City of Carpinteria Municipal Code # 12.24.090 closes the beach 750' east and 750' west of the rookery from December 1 through May 31 each year (Carpinteria Seal Watch, 2023). It is imperative that the Project does not disturb the rookery during pupping season and avoids impacts detrimental to Harbor Seals outside of pupping season. Anthropogenic underwater noise can interfere with key life functions of marine mammals such as foraging, mating, nursing, resting, migrating (Slabbekoorn, H. W., et al., 2018). The Project EIR states that "decommissioning and remediation work conducted in adjacent areas when harbor seals are present may result in disturbance to this rookery, resulting in a potentially significant impact to this species." Offshore work should not occur during pupping season, or while Harbor Seals or migratory species are present to mitigate impacts on marine mammals.

We believe that the Full Removal of Facilities Alternative is the most beneficial solution for decommissioning and remediating the marine and terrestrial environment to avoid future impacts posed by leaving oil and gas facilities unaddressed during this project. We strongly urge the City of Carpinteria to remove all oil and gas infrastructure now, so that future generations do not have to.

We are grateful for the opportunity to provide input to the decision making process.

Sincerely,

Nate Irwin  
Policy Associate  
Santa Barbara Channelkeeper

#### References:

1. *Carpinteria Seal Watch*. (2023). Available at: <https://carpinteriasealwatch.org/> (Accessed: 22 January 2024).
2. Slabbekoorn, H. W., Dooling, R. J., Popper, A. N., & Fay, R. R. (Eds.). (2018). *Effects of anthropogenic noise on animals* (Ser. Springer handbook of auditory research, volume 66). ASA Press-Springer Science Business Media, LLC. Retrieved January 23, 2024,

January 22, 2024

Nick Bobroff  
City of Carpinteria  
Community Development Department  
5775 Carpinteria Avenue  
Carpinteria, CA 93013

Sent Via Email: [nickb@carpinteriaca.gov](mailto:nickb@carpinteriaca.gov)

**Re: Santa Barbara County Air Pollution Control District Comments on the Draft Environmental Impact Report for the Chevron Carpinteria Oil and Gas Facility Decommissioning Project, Project No. 21-2128-DP/CDP, SCH #2022080026**

Dear Mr. Bobroff:

The Santa Barbara County Air Pollution Control District (District) has reviewed the Draft Environmental Impact Report (EIR) for the referenced project, which consists of the decommissioning and remediation of the onshore Oil and Gas Processing Facilities owned and operated by Chevron. The proposed project-related activities also include the removal of nearshore/offshore pipelines out to three nautical miles (the state waters limit). In addition, the project includes the complete remediation of impacted soils and groundwater at the facility. Remediation is proposed to comply with levels established in a Remedial Action Plan (RAP). The subject property, a 64-acre parcel zoned Coastal Industry District (M-CD) and Recreation (REC) and identified in the Assessor Parcel Map Book as APN 001-170-003, 004, 021, 022, 023, is located at 5675 and 5663 Carpinteria Avenue in the City of Carpinteria.

### **Comments on the EIR**

The District has the following comments on the Draft EIR:

**APCD-1**

1. **Section 1.0 Introduction, Table 1.2, Page 1-6:** There are other project activities that will or may require permit approval from the SBCAPCD that should be mentioned in this table. In addition to the currently mentioned "Portable Engine Permits for onshore facilities" please include:
  - "Contaminated Soil Clean Up,"
  - "Marine Engine Permits for offshore activities,"
  - "Storage of ROC-containing liquids or solids," and
  - "Odor control equipment."



APCD-2

2. **Section 4.2 Air Quality, Impact AQ-1, Page 4.2-15-16:** Please ensure that reasonable worst-case assumptions have been used for the haul routes for truck trips associated with disposal of equipment/piping, surface materials, and non-hazardous soil. The emission calculation details (as provided in Appendix B) show that a one-way trip mileage of 25 miles was used for “heavy-duty truck (equipment/piping)” and “heavy-duty truck (surface materials)” on-road sources. Table 2.6 *Proposed Onshore Hauling Routes and Disposal Facilities* notes that some concrete and pipelines may be hauled to Buttonwillow (Kern County) and/or Kettleman City (Kings County) which would be further than 25 miles. In addition, a one-way trip mileage of 50 miles was used for “heavy-duty truck (soil removal-non-hazardous)” however Table 2.6 notes that non-hazardous soil may be hauled to Simi Valley and/or McKittrick, Buttonwillow, the latter of which would be further than the assumed 50 miles.

APCD-3

3. **Section 4.2 Air Quality, Impact AQ-1, Page 4.2-15-16:** Proposed project activities will result in impacts in multiple jurisdictions, including Ventura, Los Angeles, Kern and Kings counties. We recommend that the document determine whether the project results in potentially significance impacts within each jurisdiction by presenting and comparing project emissions within each jurisdiction to the respective thresholds of significance for short-term construction emissions for each jurisdiction.

APCD-4

4. **Section 4.2 Air Quality, Impact AQ-2, Page 4.2-16-17:** The District is concerned about potential for odors during pipeline and tank purging activities and recommends that the potential for odors impacts during these activities be further considered and assessed in the EIR. The District recommends that measures such as use of carbon canisters or a thermal oxidizer be considered to reduce potential impacts and control vapors released during pipeline decommissioning activities.

APCD-5

5. **Section 4.2 Air Quality, Impact AQ-3, Page 4.2-17:** The following statement is made in the evaluation of Impact AQ-3: *“Per the SBCAPCD guideline document “Modeling Guidelines for Health Risk Assessments” (SBCAPCD 2020), emissions from site grading, welding, vehicle combustion emissions, or other activities associated with construction need not be included in a Health Risk Assessment (HRA) for CEQA. Thus, toxic emissions from construction activities are not considered significant by the SBCAPCD.”* The conclusory statement that *“toxics emissions from construction activities are not considered significant by the SBCAPCD”* is not correct. Please delete this sentence and support the impact determination with alternative information.

APCD-6

6. **Section 4.2 Air Quality, Page 4.2-17:** The EIR states that *“Therefore, compared with the results of the ExxonMobil Interim Trucking HRA, toxic emissions exposure to nearby residents from the Project trucking activities along area roadways would be less than the SBCAPCD threshold for cancer risk.”* The District does not support using cancer risk results from the ExxonMobil Interim Trucking Project’s HRA modeling exercise to justify the conclusion that the cancer risk from the diesel trucking operations for this project are below the District’s significance thresholds. Differences in project parameters between the ExxonMobil Interim Trucking Project and the proposed project, such as the meteorological data, terrain, truck routes, and receptor locations, will affect the cancer risk results. Although the total truck trips and diesel PM emissions may be lower for the proposed Chevron project, it cannot be concluded with certainty that an HRA would show a less-than-significant cancer risk without completing the modeling. If project-specific modeling is completed for the project, the District requests the opportunity to review the modeling files and results prior to release of the Final EIR.

APCD-7

7. **Section 4.6 Climate Change and Greenhouse Gas Emissions, Page 4.6-20-21:** The discussion on this page (including Table 4.6-6 that carries over to page 4.6-21) regarding the information and data developed by the SBCAPCD related to local GHG mitigation projects should be revised and clarified.

The data cited in Table 4.6-6 reflects specific hypothetical scenarios considered and evaluated by the APCD using an assumption that a fixed amount of \$1,000,000 of total mitigation funds are available for implementation of each project type. Based on this total funding amount, an estimated number of projects, credit potential, and cost per ton were estimated. Therefore, the information developed by the APCD is to be used for comparison purposes only and not reflective of actual costs, availability, and potential benefits of any implemented measures. Therefore, we should ask that the discussion be revised as follows or similarly to:

~~“Information related to the availability of local offsets is available from the SBCAPCD. The SBCAPCD has identified developed a potential GHG mitigation strategies that could be funded and implemented program addressing potential programs within Santa Barbara County that could be funded to provide local reductions in GHG emissions. Meetings were held in 2017 and 2019 and a matrix was developed showing the potential projects. These potential strategies various programs are listed in Table 4.6.6, and range from solar panel installations to electric vehicle charging station installations. The total amount of reductions that could be obtained per year are 21,336 MTCO<sub>2</sub>e per year.”~~

In addition, we recommend that the “MT/yr” column be revised to clarify that the figure cited is the total credit potential based on a hypothetical investment of \$1,000,000. In addition, we recommend that the “Total and average” row in Table 4.6-6 be removed from the table since the cited emission reductions do not reflect the actual potential for implementation of each project type.

#### **Regulatory Requirements and Advisories**

The following District regulatory requirements and advisories are applicable to proposed project activities:

APCD-8

8. **Permitting Requirements and CEQA Role:** Based on the project description and information that has been provided, the proposed project includes equipment or operations subject to District permit requirements and prohibitory rules. Therefore, the District will be a **responsible agency under the California Environmental Quality Act (CEQA)** and will consider the EIR when issuing District permits. The District will evaluate the emissions from the project to determine which New Source Review (NSR) requirements will apply as part of the District Authority to Construct (ATC) application review. NSR requirements may include Best Available Control Technology (BACT), Air Quality Impact Analysis (AQIA), Health Risk Assessment (HRA), and/or Emission Reduction Credits (ERCs). The District permit process can take several months. To avoid delay, the applicant is encouraged to submit their Authority to Construct permit application to the District as soon as possible; see [www.ourair.org/permit-applications/](http://www.ourair.org/permit-applications/) to download the necessary permit application(s).

- APCD-9** 9. **Marine Vessels:** The operation of marine vessel engines for demolition activities at a stationary source requires an **Authority to Construct and Permit to Operate or a written permit exemption approval** prior to the start of demolition activities. Pursuant to District Rule 202.F.8., the project may qualify for a written permit exemption if the duration of the activities do not exceed 12 consecutive months and the potential to emit of such engines is less than 10 tons per stationary source of NO<sub>x</sub>, SO<sub>x</sub>, ROCs, or particulate matter. Currently, the analysis estimates that emissions from the project's offshore activities will be less than 10 tons per criteria pollutant. However, because the quantification of emissions from marine vessel activity is currently based on average fleet inventory emission factors as well as industry average load factors, it is possible that once specific marine vessels, usage, duration, and load factors are identified, the potential to emit from these vessels may vary from what is currently estimated. If a District permit is required because the project exceeds 10 tons, or to ensure the project does not exceed 10 tons, the District will evaluate the duration and emissions from the project to determine if the project is subject to Regulation VIII, New Source Review, and if so, which requirements will apply. Additionally, the District will evaluate whether any of the conditions requiring subsequent environmental review are triggered and prepare any necessary documentation to fulfill the District's obligations under CEQA.
- APCD-10** 10. **Diesel Engines:** All portable diesel-fired construction engines rated at 50 brake horsepower or greater must have either statewide Portable Equipment Registration Program (PERP) certificates or District permits or exemptions prior to start of demolition activities. Construction/demolition engines with PERP certificates are exempt from the District permit, provided they will be on-site for less than 12 months.
- APCD-11** 11. **Contaminated Soils.** District Authority to Construct and/or Permit to Operate permits will be required for the proposed contaminated soil remediation activities. See [www.ourair.org/csc-projects](http://www.ourair.org/csc-projects) for more information on contaminated soil clean-up.
- APCD-12** 12. **Asbestos:** The applicant is required to obtain an asbestos survey for suspect asbestos containing materials and complete and submit an **Asbestos Demolition/Renovation Notification** (District Form ENF-28, which can be downloaded at [www.ourair.org/compliance-forms](http://www.ourair.org/compliance-forms)) for each regulated structure to be demolished or renovated. Demolition notifications are required regardless of whether asbestos is present or not. The completed notification should be presented or mailed to the District with a minimum of 10 working days advance notice prior to disturbing asbestos in a renovation or starting work on a demolition. For additional information on asbestos notification requirements, please see [www.ourair.org/asbestos/](http://www.ourair.org/asbestos/) or contact the District's Compliance Division at (805) 979-8050.
- APCD-13** 13. **Onsite Storage:** If there is any planned or potential storage of Reactive Organic Compound (ROC) containing liquids or solids (e.g. ROC-impacted soils), the applicant must obtain a District permit or written exemption from permit.
- APCD-14** 14. **Pipeline Purging.** Pipeline purging operations have the potential for odor generation. In order to prevent odors from causing a violation of District Rule 303, *Nuisance*, the District recommends that carbon canisters or a thermal oxidizer be employed to control vapors released during pipeline decommissioning activities. Some companies already have permits with the District for thermal oxidizer units. The applicant should consider using an already permitted unit through a company, or could contact the District to obtain a permit or written permit exemption.

**APCD-15** 15. **Fugitive Dust:** Construction/demolition activities are subject to District Rule 345, *Control of Fugitive Dust from Construction and Demolition Activities*. This rule establishes limits on the generation of visible fugitive dust emissions at demolition and construction sites, includes measures for minimizing fugitive dust from on-site activities, and from trucks moving on- and off-site. Please see [www.ourair.org/wp-content/uploads/rule345.pdf](http://www.ourair.org/wp-content/uploads/rule345.pdf). Activities subject to Rule 345 are also subject to Rule 302 (*Visible Emissions*) and Rule 303 (*Nuisance*).

**APCD-16** 16. **Idling:** At all times, idling of heavy-duty diesel trucks should be minimized; auxiliary power units should be used whenever possible. State law requires that:

- Drivers of diesel-fueled commercial vehicles shall not idle the vehicle's primary diesel engine for greater than 5 minutes at any location.
- Drivers of diesel-fueled commercial vehicles shall not idle a diesel-fueled auxiliary power system (APS) for more than 5 minutes to power a heater, air conditioner, or any ancillary equipment on the vehicle. Trucks with 2007 or newer model year engines must meet additional requirements (verified clean APS label required).
- See [www.arb.ca.gov/noidle](http://www.arb.ca.gov/noidle) for more information.

If you or the project applicant have any questions regarding these comments, please feel free to contact me at (805) 979-8337 or via email at [barhamc@sbcapcd.org](mailto:barhamc@sbcapcd.org).

Sincerely,



Carly Barham  
Planning Division

cc: David Harris, Manager, District Engineering Division (electronic only)  
William Sarraf, Supervisor, District Engineering Division (electronic only)  
Charlotte Mountain, Air Quality Engineer, District Engineering Division (electronic only)  
Planning Chron File



## Nick Bobroff

---

**From:** Andrew Raaf <ASRAAF@countyofsb.org>  
**Sent:** Friday, December 01, 2023 9:05 AM  
**To:** Nick Bobroff  
**Subject:** Chevron EIR comments

**\*\*EXTERNAL EMAIL\*\***

**CAUTION:** This email originated from outside the City of Carpinteria. DO NOT OPEN attachments or CLICK on links unless you are sure they are safe. Remember, reputable vendors, banks, etc. will not ask you to disclose passwords or other sensitive information.

Hi Nick, hope you're doing well and getting ready for a good holiday.

I have a couple comments on the Chevron EIR, not necessarily project-related but clarifying comments on some of the background pg 4.8-2

Canyon Creek. The Carpinteria, Santa Monica, and Franklin Creeks have been channelized by the Santa Barbara County Flood Control and Water Conservation District, the U.S. Army Corps of Engineers, and the U.S. Soil Conservation Service. The Santa Barbara County Flood Control Engineer has determined that lands above 250 feet elevation in the Carpinteria area would be free from flood hazard in the area of the channelized creeks.

The Federal Emergency Management Agency (FEMA) has established National Flood Insurance Rate Maps (FIRMs), which designate flood zones for the Carpinteria planning area. The maps were last updated for Carpinteria and adjacent areas in September of 1985. Areas within the 100-year flood zone include:

FCD-1 Carp creek proper is not channelized by Fed or County action and is not part of the Carpinteria Valley Watershed Plan from the 60s era. The CarpValley Watershed Project is Santa Monica and Franklin as mentioned and was/is a joint agency program by County Flood Control, resource conservation districts at the time, Army Corps, SCS now NRSC, and City of Carpinteria. (Draft EIR 1975)

FCD-2 Flood Control Engineer has not made a determination that land above 250ft elevation is free from flood hazards, if this is from a citation please let me know where so we can address where that is coming from and update or clarify. Thanks, have a good weekend,

**Andrew Raaf** - [asraaf@countyofsb.org](mailto:asraaf@countyofsb.org)

Environmental Manager

Santa Barbara County Flood Control District

Cell: 805-722-7250

Fax: 805-568-3434

130 E Victoria Street, Suite 200

Santa Barbara, CA 93101

To Nick Bobroff (nickb@carpinteriaca.gov)  
FROM: Amrita M. Salm  
DATE: Jan. 31, 2024

RE: Decommissioning & Remediation of the Chevron Carpinteria Oil & Gas Processing Facility Project

- |      |                                                                                                                                                                                                                                                                                                                                                 |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AS-1 | 1. I have no idea how it is possible to completely remediate impacted soils & groundwater at the Facility. It seems it would be very toxic after all these years. It is my hope that nothing is built on that site, esp. housing due to the impact of toxic wastes.                                                                             |
| AS-2 | 2. Contaminated materials: where will they go?                                                                                                                                                                                                                                                                                                  |
| AS-3 | 3. Does the buffer zone (p. ES-4) include the buffer zone behind Arbol Verde Street?                                                                                                                                                                                                                                                            |
| AS-4 | 4. Where do the recycling materials get disposed?                                                                                                                                                                                                                                                                                               |
| AS-5 | 5. Who determines if the restoration of the affected portions of the Project Site are properly restored?                                                                                                                                                                                                                                        |
| AS-6 | 6. Seal Rookery: <ul style="list-style-type: none"><li>a. Any work South of the RR tracks there should be two people observing the work.</li><li>b. Anytime work North of RR tracks &amp; in close proximity to the seals have one observer.</li><li>c. There should be extra parking for Seal Watch volunteers with extra observers.</li></ul> |
| AS-7 | 7. There are a number of Class I Impacts which I assume we have to live with along with the proposed mitigation measures. I am especially concerned about the impact on the seal rookery and any future housing on the project site.                                                                                                            |
| AS-8 | 8. Hopefully the entire clean-up will be paid for by Chevron not the citizens of Carpinteria, i.e. the City of Carpinteria.                                                                                                                                                                                                                     |

## Nick Bobroff

---

**From:** BETTY SONGER <capacbet@aol.com>  
**Sent:** Wednesday, January 31, 2024 3:04 PM  
**To:** Nick Bobroff  
**Subject:** Oil and Gas Facility Decommissioning Project

**\*\*EXTERNAL EMAIL\*\***

CAUTION: This email originated from outside the City of Carpinteria. DO NOT OPEN attachments or CLICK on links unless you are sure they are safe. Remember, reputable vendors, banks, etc. will not ask you to disclose passwords or other sensitive information.

Dear Nick,

- BS-1 1. Who will monitor the air pollution, will Air Pollution Control be involved ?
- BS-2 2. While wells Nugent no 1 and Nugent no 2 were on the buffer zone, why are these soils not being remediated. I remember the remnants of these wells from 1957 when we could walk on that property. Venoco offered this property to the city, but the city did not want the liability.  
There were also two huge gasoline storage tanks near the area also.
- BS-3 3. Everything that can be done to protect the seals should be done, even with mitigation the seals will be harmed, so extreme measures should be taken.
- BS-4 4. Have the rules on building homes on such sites changed, I remember when some of our gas stations were removed and no restaurants could be built on the property for 20 years?

Thanks  
Betty Songer  
5641 Calle Pacific  
Carpinteria Ca, 93013

Sent from my iPad

**Nick Bobroff**

---

**From:** Stevens, Theresa CIV USARMY CESPL (USA) <Theresa.Stevens@usace.army.mil>  
**Sent:** Thursday, January 18, 2024 9:29 AM  
**To:** Nick Bobroff  
**Cc:** Stevens, Theresa CIV USARMY CESPL (USA); Allen, Aaron O CIV USARMY CESPL (USA)  
**Subject:** SCH #2022080026 Project No. 21-2128-DP/CDP

**\*\*EXTERNAL EMAIL\*\***

**CAUTION:** This email originated from outside the City of Carpinteria. **DO NOT OPEN** attachments or **CLICK** on links unless you are sure they are safe. Remember, reputable vendors, banks, etc. will not ask you to disclose passwords or other sensitive information.

To Whom it May Concern:

The US Army Corps of Engineers (USACE) has reviewed the project description for the proposed action-Chevron Carpinteria Oil & Gas Facility Decommissioning Project.

USACE-1

The authorities of the USACE include section 10 of the Rivers and Harbors Act (work and structures) and section 404 of the Clean Water Act (discharges of dredged or fill material). A USACE permit may be required to complete the proposed decommissioning of offshore oil and gas facilities in state waters below the high tide line elevation.

A preapplication meeting with the project proponent and the USACE is recommended.

If you have any questions regarding the USACE authorities or this comment, please contact me.

In my absence you may contact my supervisor, Aaron Allen, PhD, USACE Los Angeles District, North Coast Branch Chief.

Thank you-

Theresa Stevens, PhD  
Senior Project Manager

During the Coronavirus Health Emergency, please do not mail printed documents to any Regulatory staff or office. For further details on corresponding with us, please view our COVID-19 special public notice at:  
[https://www.spl.usace.army.mil/Portals/17/docs/publicnotices/COVID19%20Regulatory\\_SPN.pdf?ver=2020-03-19-134532-833](https://www.spl.usace.army.mil/Portals/17/docs/publicnotices/COVID19%20Regulatory_SPN.pdf?ver=2020-03-19-134532-833)

*Theresa Stevens, Ph.D.*  
U.S. Army Corps of Engineers



Los Angeles District  
Regulatory Division  
60 South California Street, Suite 201  
Ventura, CA 93001-2598

PHONE: 805-585-2146

<http://www.spl.usace.army.mil/Missions/Regulatory/>

Assist us in better serving you!

You are invited to complete our customer survey, located at the following link:

<https://regulatory.ops.usace.army.mil/customer-service-survey/>

## Nick Bobroff

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**From:** Charis van der Heide <charisvdh@gmail.com>  
**Sent:** Friday, January 12, 2024 5:43 AM  
**To:** Luis Perez  
**Cc:** Nick Bobroff  
**Subject:** Re: Notice of Availability of EIR for Chevron Carpinteria Oil & Gas Facility Decommissioning Project

**\*\*EXTERNAL EMAIL\*\***

**CAUTION:** This email originated from outside the City of Carpinteria. DO NOT OPEN attachments or CLICK on links unless you are sure they are safe. Remember, reputable vendors, banks, etc. will not ask you to disclose passwords or other sensitive information.

Hi Luis and Nick,

CV-1 Thank you for your emails. My concerns are for both the tree maintenance that occurred over this past summer/fall and the additional tree work contemplated as part of the decommissioning work described in the EIR.

I have read through the Terrestrial Biology Report. The report does reference the history of the monarch observations at the site and lists two surveys that occurred in 2020 and 2021 by Padre Associates. Is it possible to share copies of these two references with me?

Padre Associates, Inc. 2020. Chevron Biological Survey and Habitat Impact Review Form. 14 December.

Padre Associates, Inc. 2021a. Chevron Biological Survey and Habitat Impact Review Form. 2 February.

My concern is the absence of monarch surveys in the Tree Maintenance and Hazard Reduction Plan. Page 3-1/C-104 states "Pre-activity biological surveys were performed by Padre Associates, Inc. on Friday, Monday, and Tuesday, March 3, 6, and 7, 2023, with follow-up visits on March 20, March 27 through 31, April 1, 3, 4, 10, 12, 13, 18, and 24, and May 19, and 25, 2023." All of these pre-activity biological surveys occurred outside of the peak of monarch butterfly overwintering season (November and February) and thus were unable to observe and document the location of monarch aggregations in ESHA prior to tree work. Pre-activity biological surveys within the peak of monarch butterfly overwintering season are standard practice for projects within monarch ESHA. Without these monarch surveys during the overwintering season, the tree maintenance activity resulted in the topping and pruning of monarch aggregation trees and the significant negative impact to monarch ESHA. Since 2016, monarch butterflies are known to aggregate outside of the buffer zone along Dump Road by Gate 1. All of these trees were topped and pruned in 2023. The tree work finished in November 2023, which is the peak of the monarch butterfly season.

My concern with the additional tree work contemplated as part of the decommissioning work described in the EIR is that this could cause additional damage to monarch overwintering habitat along Dump Road by Gate 1.

Thank you for your attention to these concerns,  
Charis van der Heide

On Fri, Jan 12, 2024 at 12:49 AM Luis Perez <[luis.perez@mrsenv.com](mailto:luis.perez@mrsenv.com)> wrote:

Please see attached terrestrial biology report, which contains monarch butterfly survey information. Please let me now if you have any questions. Thanks.

Luis F. Perez

Senior Project Manager

MRS Environmental Inc.

1306 Santa Barbara St.

Santa Barbara, CA 93101-2045

805-289-3930 Office

805-896-7875 Cel

[luis.perez@mrsenv.com](mailto:luis.perez@mrsenv.com)

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**From:** Nick Bobroff <[nickb@carpinteriaca.gov](mailto:nickb@carpinteriaca.gov)>

**Sent:** Thursday, January 11, 2024 2:05 PM

**To:** Charis van der Heide <[charisvdh@gmail.com](mailto:charisvdh@gmail.com)>

**Cc:** Luis Perez <[luis.perez@mrsenv.com](mailto:luis.perez@mrsenv.com)>

**Subject:** RE: Notice of Availability of EIR for Chevron Carpinteria Oil & Gas Facility Decommissioning Project

Hi Charis,

Thanks for reaching out.

I'm a little bit unclear as to whether your question is more focused on the tree maintenance work that occurred over this past summer/fall, or relating to the additional tree work contemplated as part of the decommissioning work described in the EIR; or perhaps, both?

In any case, by way of this response, I'm copying our environmental consultant, Luis Perez with MRS Environmental, in the hopes that he or someone from his team can answer your specific question about whether any monarch surveys during the overwintering season were conducted in the preparation of the EIR for the proposed decommissioning project.

If, on the other hand, your inquiry is more narrowly focused on the tree work that already occurred, I would probably need to instead refer your inquiry to Chevron's own environmental consultant, Padre Associates, whom I believe prepared the tree maintenance plan and any related surveys.

Best,



**Nick Bobroff**

Director, Community Development Department

City of Carpinteria

5775 Carpinteria Ave, Carpinteria, CA 93013

Direct Line: (805) 755-4407 | [nickb@carpinteriaca.gov](mailto:nickb@carpinteriaca.gov)

[CarpinteriaCA.gov](http://CarpinteriaCA.gov)

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**From:** Charis van der Heide [<mailto:charisvdh@gmail.com>]

**Sent:** Wednesday, January 10, 2024 12:26 PM

**To:** Nick Bobroff <[nickb@carpinteriaca.gov](mailto:nickb@carpinteriaca.gov)>

**Subject:** Re: Notice of Availability of EIR for Chevron Carpinteria Oil & Gas Facility Decommissioning Project

**\*\*EXTERNAL EMAIL\*\***

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Hi Nick,

Thank you for the information about the public comment being extended to January 30th. I am preparing a comment letter.

My biggest concern about the tree maintenance activity is that the monarch roost trees were topped/pruned/limbed and significantly impacted to the extent that the trees no longer offer suitable overwintering habitat. In reviewing the tree maintenance plan and the initial studies, I haven't found any record of monarch butterfly surveys occurring in monarch ESHA during the height of the overwintering season (November to February) prior to the tree work. There are records of 19 surveys for nesting birds on the Chevron property prior to the tree work, but no focused monarch butterfly surveys.

Thanks for your attention to this matter,



Charis van der Heide

On Mon, Dec 18, 2023 at 8:36 PM Nick Bobroff <[nickb@carpinteriaca.gov](mailto:nickb@carpinteriaca.gov)> wrote:

Hi Charis,

You are correct that the tree maintenance work begun in the summer and wrapped up recently was separate from and ahead of the work contemplated as part of the decommissioning project.

There are additional tree removals proposed as part of the decommissioning project itself. The areas impacted by this work are described in the DEIR in a few locations. Figure 2-6 shows the areas where tree removals are anticipated. Tree removals are described in more detail in Section 2.5.1 (Demolition and Remediation Project Areas) as part of the narrative for the different operational areas. I believe in total, approximately 85 trees are identified for removal.

The Biological Resources section describes the potential for impacts to Monarch Butterflies (see Section 4.3.4, Project Impacts and Mitigation Measures) and describes proposed mitigation (e.g., Bio.1c, Pre-construction wildlife surveys; etc.).

Best,



**Nick Bobroff**

Director, Community Development Department

City of Carpinteria

5775 Carpinteria Ave, Carpinteria, CA 93013

Direct Line: (805) 755-4407 | [nickb@carpinteriaca.gov](mailto:nickb@carpinteriaca.gov)

[CarpinteriaCA.gov](http://CarpinteriaCA.gov)

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**From:** Charis van der Heide [mailto:[charisvdh@gmail.com](mailto:charisvdh@gmail.com)]

**Sent:** Monday, December 18, 2023 2:05 AM

**To:** Nick Bobroff <[nickb@carpinteriaca.gov](mailto:nickb@carpinteriaca.gov)>

**Subject:** Re: Notice of Availability of EIR for Chevron Carpinteria Oil & Gas Facility Decommissioning Project

**\*\*EXTERNAL EMAIL\*\***

**CAUTION:** This email originated from outside the City of Carpinteria. **DO NOT OPEN** attachments or **CLICK** on links unless you are sure they are safe. Remember, reputable vendors, banks, etc. will not ask you to disclose passwords or other sensitive information.

Hi Nick,

Thank you for the opportunity to comment on this Draft EIR. I am preparing a formal comment letter.

The tree maintenance project on the Chevron site was started in summer/fall 2023 before this public comment period however. The Draft EIR did not survey for monarch aggregations and missed the occurrence of monarch roosts in the trees that were topped and pruned in the tree maintenance project. Are any tree removals or additional tree maintenance planned to occur? If possible, I'd like to prevent additional impacts to monarch aggregation habitat.

Thank you,

Charis van der Heide

On Fri, Dec 15, 2023 at 8:50 PM Nick Bobroff <[nickb@carpinteriaca.gov](mailto:nickb@carpinteriaca.gov)> wrote:

Good afternoon,

At the request of the project applicant (Chevron West Coast Decommissioning Program), the public review and comment period for the Draft EIR has been extended for an additional two weeks. The revised public review and comment period will now close on **Wednesday, January 31, 2024 at 5:00 p.m.**

Please see the attached revised Notice of Availability for additional information. The DEIR, Executive Summary and additional information remain available on the City's website at the link in the included email, below.

Thank you,



**Nick Bobroff**

Director, Community Development Department

City of Carpinteria

5775 Carpinteria Ave, Carpinteria, CA 93013

Direct Line: (805) 755-4407 | [nickb@carpinteriaca.gov](mailto:nickb@carpinteriaca.gov)

[CarpinteriaCA.gov](http://CarpinteriaCA.gov)

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**From:** Nick Bobroff

**Sent:** Thursday, November 30, 2023 4:31 PM

**Subject:** Notice of Availability of EIR for Chevron Carpinteria Oil & Gas Facility Decommissioning Project

Good Afternoon,

As an interested party for the Chevron Carpinteria Oil & Gas Facility Decommissioning Project, you're receiving this email because the City of Carpinteria has prepared a Draft Environmental Impact Report (EIR) for the project. The Draft EIR is now available for public review and comment at the following link: <https://carpinteriaca.gov/city-hall/community-development/oil-gas-information/oil-processing-facility-decommissioning/>

The public review and comment period begins today, November 30, 2023, and will close on **January 15, 2024 at 5pm**. Please submit written comments to me by mail or email at the contact information below.

You are also welcome to participate in the City's upcoming Public Workshop / Environmental Review Committee meeting for this Draft EIR to be held on Monday, December 18, 2023, from 5:30 p.m. to 8:00 p.m. in the Council Chambers at Carpinteria City Hall, 5775 Carpinteria Avenue, Carpinteria, CA 93013.

If you have any questions or comments, please do not hesitate to contact me.

Thank you,



**Nick Bobroff**

Director, Community Development Department

City of Carpinteria

5775 Carpinteria Ave, Carpinteria, CA 93013

Direct Line: (805) 755-4407 | [nickb@carpinteriaca.gov](mailto:nickb@carpinteriaca.gov)

[CarpinteriaCA.gov](http://CarpinteriaCA.gov)





January 12, 2024

City of Carpinteria  
Attn: Nick Bobroff, Community Development Director  
5775 Carpinteria Ave.  
Carpinteria, CA 93103

**SUBJECT: Chevron Carpinteria Oil and Gas Facility Decommissioning Draft EIR**

Dear Nick Bobroff,

Thank you for providing the County of Ventura Planning Division with the opportunity to comment on the Chevron Carpinteria Oil and Gas Facility Decommissioning Draft Environmental Impact Report (EIR). The City of Carpinteria should be commended for working to decommission and remediate this shuttered oil and gas facility and for preserving coastal resources. The Planning Division's comments for the draft EIR focus on plans to truck and dispose of oil and gas facility materials in the unincorporated areas of Ventura County, as well as biological resources.

The Chevron Carpinteria Oil and Gas Facility Decommissioning Project (Proposed Project) would demolish and remove equipment on the 55-acre shoreline facility, associated pipelines, and includes remediation of impacted soils and groundwater. Existing site resources, including mature trees and coastal bluffs would be preserved and unaffected by remediation efforts. Options for reuse of the property will be further explored during the City of Carpinteria's current Draft General Plan/Local Coastal Plan Update and may include rezoning from Industrial uses to Planned Unit Development and Open Space/Recreation.

The project objectives in the EIR are summarized as follows (page ES-5 of draft EIR):

- Removal of existing surface and subsurface equipment, pipeline segments and structures associated with the facility, including removal of concrete foundations, asphalt, oil spray, and road base;
- Preparation for, and removal of, offshore pipelines;
- Excavation, remediation, and restoration of impacted soils in accordance with an agency approved Remedial Action Plan; and
- Recycling/disposal of all removed materials to sites located in Kern and Ventura Counties.

RMA-1

The EIR describes a complex decommissioning process that involves multiple jurisdictions and up to four different counties. Impacts to unincorporated Ventura County could be significant in terms of thousands of truck trips through unincorporated

RMA-1

communities in order to dispose of and recycle materials. Specifically, the EIR identifies five unincorporated facilities: Waste Management Simi Valley, State Ready Mix Recycling Asphalt and Concrete, Standard Industries Steel, and Grimes Rock, Inc. These facilities are permitted to operate under approved discretionary permits which include conditions of approval with maximum allowed truck trips and maximum of volume of materials which may be received. Since the project site is located near the boundary of Ventura County, sensitive biological species that use coastal habitat could also be affected. The draft EIR should include clarifications regarding the types of biological species that will be impacted during Proposed Project activities, along with mitigation measures to reduce impacts to less than significant if those species are found. Please review the following discussion for more information regarding these requested clarifications.

RMA-2

**Truck Trip and Materials Information**

Over the estimated three-year period for the completion of the Proposed Project approximately 5,445 truckloads (including 169 loads for equipment removal, 1,119 loads for surface materials removal, and 4,157 loads for soil remediation) will be required to transport the various waste streams from the Proposed Project to receiving facilities. The EIR identifies trucking routes that may be used could be destined to Waste Management Simi Valley in an unincorporated area near Simi Valley, or State Ready Mix in the unincorporated community of El Rio/Del Norte and could result in approximately 16 to 40 roundtrip truck trips per day to/from either of these facilities and the Proposed Project site.

The EIR should be revised to provide clarity in Section 2.5.2.3-Table 2.4 (page 2-30 of draft EIR) and show the types of material, number of truck trips per month, and the specific destination facilities. There are multiple hauling routes and disposal facilities listed, including facilities in Kern County, Kettleman City in Kings County, and those in Ventura County such as Waste Management Simi Valley, State Ready Mix Recycling Asphalt and Concrete in the unincorporated community of El Rio Del Norte, Standard Industries Steel in the unincorporated community of Saticoy, and Gold Coast Recycling and Transfer Station in the City of Ventura. Additionally, Figure 2-10 (page 2-33) shows Grimes Rock, Inc. as a recycle location, which is located in an unincorporated area between the cities of Fillmore and Moorpark; however, Grimes Rock is not included in Table 2.4 as a disposal facility. Please revise Table 2.4 to include Grimes Rock if this facility is intended to be a disposal facility for the Proposed Project.

RMA-3

These clarifications should be followed by analysis in the EIR as to whether the number of truck trips, material types, and truck load amounts can be accommodated under the current land use permits and conditions of approval for each County-permitted facility. If the Proposed Project would exceed the maximum number of truck trips, material amounts or types of materials allowed in a County permitted facility, these Permittee's may be required to modify their County approved permits to support the Proposed Project. Alternatively, the Proposed Project and EIR may require revision to identify alternate facilities that can receive the truck trips, material types and load amounts consistent with their approved permits and conditions of approval.

RMA-4

**2.5.23 Recycling and Disposal Volumes - Pipeline Disposal Analysis**

In addition to soils and equipment that could be hauled to, and disposed of/recycled in the unincorporated County, Table 2.7 (page 2-34 of draft EIR) indicated that approximately 2,500 tons of steel and concrete could be barged into either the Port of Long Beach or the Port of Hueneme. If sent to the Port of Hueneme, the materials would subsequently be trucked for disposal/recycling at one or more of the unincorporated facilities listed above. The EIR indicates that if delivered to the Port of Hueneme the receiving facility would be Standard Industries in the unincorporated community of Saticoy. Specifically, two barge loads and 141 round trip truck trips would be required to move all the materials.<sup>1</sup> Standard Industries is located approximately 12.5 miles from Port Hueneme. From Port Hueneme, the most immediate route for hauling will be northward on Victoria Avenue and eastward onto Vineyard Avenue to access the industrial area of Saticoy and Standard Industries. Alternative routing could be northeast on Pleasant Valley Road and northward on Rice Avenue to avoid populated areas or peak traffic conditions.

This comment is regarding the truck trips through the County General Plan Designated Disadvantaged Communities. The pipeline disposal analysis in the draft EIR presents two potential barge destinations in the EIR, but it does not indicate with destination port would most closely meet the project objectives. The State CEQA Guidelines require that the EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative must be discussed, but in less detail than the significant effects of the project as proposed (CCR Section 15126.6[d]). The draft EIR should include more comparative analysis for the two alternatives to determine if barging then truck trips to disposal sites near either Long Beach or Port Hueneme would have more significant affects. The proposed truck routes for the approximately 35 daily trips that would be required from Port Hueneme to Standard Industries in Saticoy should be analyzed in the EIR for this project. Please include a map in the EIR showing the proposed truck routes and analyze which routes would avoid the County Designated Disadvantaged Communities of El Rio, Nyeland Acres, and Saticoy to the maximum extent feasible. The alternative routing presented in the draft EIR Section 2.5.23 Recycling and Disposal Volumes should be applied to the Proposed Project, going the northeast from the Port on Pleasant Valley Road, and northward on Rice Avenue, avoiding populated areas and peak traffic hours to the maximum extent feasible.

RMA-5

**Material Disposal Transportation Plan**

The EIR indicates that site cleanup options that involve off-site disposal, on-site treatment with subsequent disposal, and/or off-site treatment of hazardous wastes/substances will benefit from, and in most cases, require early consideration of transportation issues in the form of a written transportation plan. The EIR does not include a transportation plan. A transportation plan is, in some cases, required by law.

<sup>1</sup> Based on a maximum single truck weight of 18 tons, it is estimated that approximately 141 round trips to Standard Industries would be required to transport 2,538.68 tons of pipeline materials.



RMA-5

For example, Health and Safety Code Section 25169.3 specifies conditions required for transport of hazardous materials<sup>2</sup>. It should be noted that in the 2018 Asbestos and Lead Based Paint Survey Report (page 2-12 of draft EIR) there are materials on the site that contain asbestos and lead. Additionally, the results of the site assessment activities indicated constituents of concern in excess of applicable soil screening levels including total petroleum hydrocarbons, PCBs, California regulated metals, and chlorinated pesticides.

Section 4.2.2.3 Local Regulations details the dust control measures required by the County of Santa Barbara in the SBCAPCD Air Quality Attainment Plan (page 4.2-12 of draft EIR). The best practices covered by this policy include on-site vehicle traffic and if off-site importation, exportation, and stockpiling of fill material is involved, soil stockpiled for more than one day shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be appropriately covered with tarp from the point of origin to the final destinations. In addition to dust control measures, mitigation measure HAZ 1 (page 4.7-12 of draft EIR) includes contaminated soil handling measures with similar regulations to cover soil with tarps and impermeable coverings. Similar to these dust control measures, a transportation plan for the transportation of materials to disposal facilities should incorporate the best practices for trucks traveling to disposal facilities such as ensuring trucks are tarped or covered so materials cannot spill during transport. Based on the information presented in the EIR please include a transportation plan regarding hauling of hazardous and non-hazardous materials to disposal facilities.

RMA-6

Additionally, if there are any unincorporated County-permitted facilities which are planned to receive hazardous materials, please update the EIR Remedial Action Plan discussion to note that the County of Ventura will be afforded the opportunity to review and comment on this Plan.

RMA-7

### **Biological Resource Impacts**

Since monarch butterflies, migratory birds, and other species rely on coastal habitats in both Ventura County and Carpinteria, the following comments describe the need to conduct biological surveys prior to Proposed Project site disturbances, and if protected species are found, please include mitigation measures in the draft EIR.

#### *Western Monarch Butterfly Overwintering Roosts*

The Proposed Project site is also a historic Western monarch butterfly overwintering site.<sup>3</sup> Please update the initial biological survey, or the draft EIR to include a map of the historic butterfly roost site with core roost trees and a 500-foot support area<sup>2</sup>. The draft EIR found that the Proposed Project may cause significant impacts to roosting monarchs, including mortality, but also stated that the Proposed Project would not substantially modify the microenvironment within the winter roost site aggregation area (wind, temperature). These conclusions should be supported with depictions of the roost site(s) on relevant maps or figures presented in the EIR or biological appendices (page 4.3-52 of draft EIR). Monarch conservation scientists at the US Fish and Wildlife

<sup>2</sup> [https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/SMB\\_Transportation-Plan.pdf](https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/SMB_Transportation-Plan.pdf)

<sup>3</sup> Xerces Society Site #2800 (Oil & Gas Buffer Zone, Carpinteria)



## RMA-7

Service have issued guidance describing that overwintering roost sites should be managed and enhanced within the core area (roost trees) and a 500-foot support zone (or more-depending upon surrounding topography/habitat) to provide essential resources for the species. Essential resources and supporting habitat include nearby nectar sources (plants in flower throughout the core roost site and support area), protective landscape features that lessen the impacts from prevailing winds on the roost trees (e.g., hills/topography, trees, human-made structures), heat (small openings in the core roost to allow dappled sunlight), humidity (close to the coast), and a water source.<sup>4,5</sup>

As noted in the draft EIR, monarch overwintering sites are classified as an Environmentally Sensitive Habitat Area (ESHA) by the Coastal Act and the City's Local Coastal Program states "adjacent development shall be designed and set back far enough to protect the quality of the habitat." ([Coastal Land Use Plan, ESHA Implementation Policy 37](#)). Decommissioning activities such as soil and equipment removal at the scale proposed are considered "development" according to the Coastal Act.

Furthermore, while the proposed mitigation measure "Bio.1c 1. Monarch Butterflies:" provides a mitigation measure for preconstruction surveys to determine the presence of monarch butterflies, it should clearly define what the mitigation action will be required to mitigate the physical disturbance or indirect impacts from the project, and temporarily suspend project activities if necessary. While the mitigation actions are clear for nesting birds, it remains unclear what the trigger would be for the monarch roost. In addition, the draft EIR does not mention long-term site maintenance activities that will be necessary once the site is remediated should be included in the draft EIR in order to mitigate direct, indirect, and cumulative impacts to the butterflies, particularly if there will be landscape maintenance (pesticide use, fire-safety tree/brush thinning or removal), night lighting, or human-caused changes to the availability of fresh-water resources (Coastal Land Use Plan OSC-1f. Implementation Policy 6).

All monarch surveys, management plans should be conducted by a USFWS/Xerces recommended monarch biologist with sufficient technical experience and biological background to conduct the surveys and develop the plan. This includes utilizing two monitors to minimize count errors and at least two survey counts should occur during the overwintering season.

## RMA-8

*Roosting Birds Associated with the Migratory Bird Treaty Act*

The draft EIR should include surveys conducted for trees utilized as roost trees throughout the year by herons, egrets, cormorants, or other protected migratory species. Throughout the year, many sheltered tree areas are utilized by these birds to rest during the day. If a migratory bird roost is found, a mitigation measure should be included to avoid, preserve, or replace the roost.

<sup>4</sup> [https://xerces.org/sites/default/files/publications/21-015\\_03.pdf](https://xerces.org/sites/default/files/publications/21-015_03.pdf)

<sup>5</sup> [https://xerces.org/sites/default/files/2018-05/15-016\\_01\\_XercesSoc\\_Conservation-Status-Ecology-Monarch-US-web.pdf](https://xerces.org/sites/default/files/2018-05/15-016_01_XercesSoc_Conservation-Status-Ecology-Monarch-US-web.pdf)

RMA-9

*Yuma Bat (Yuma Myotis)*

The Yuma Bat was observed in the vicinity, and this species could be an occasional forager or have roosts at the Proposed Project site. This species is listed by the California Department of Fish and Wildlife (CDFW) as a "Species of Special Concern" and listed in the agencies' California Natural Diversity Database as having cause for some concern as a result of local recent declines, threats, or other factors. Further analysis should be used to determine if the Proposed Project would cause significant impacts to the species, specifically if they roost in trees or on equipment on the Proposed Project site (page 4.3-28 of draft EIR). Pre-construction bat surveys should be conducted by a CDFW-approved bat biologist to ensure there are no roosting *Yuma Myotis* in trees or on equipment. If a bat roost is found, a mitigation measure should be included to avoid, preserve, or replace the roost.

In conclusion, thank you again for the opportunity to comment on the Chevron Carpinteria Oil and Gas Facility Decommissioning Draft EIR. If you have any questions about the truck trips and material disposal comments, please contact Joel Hayes at Joel.Hayes@ventura.org or 805.654.2834. For questions about biological resources, contact Abigail Convery at Abigail.Convery@ventura.org or 805.654.2489.

Sincerely,



Dave Ward, AICP | Planning Director  
County of Ventura, Planning Division

January 25, 2024

Nick Bobroff, Director, Community Development Department  
City of Carpinteria  
5775 Carpinteria Ave, Carpinteria, CA 93013  
(805) 755-4407  
Via email: [nickb@carpinteriaca.gov](mailto:nickb@carpinteriaca.gov)

**Comment Letter on the Draft Environmental Impact Report (EIR)  
Decommissioning and Remediation of the Chevron Carpinteria Oil & Gas  
Processing Facility Project**

Dear Nick Bobroff,

The monarch butterfly overwintering site on the Chevron Carpinteria Oil & Gas Processing Facility is well known and documented. It is labeled as the Oil & Gas Buffer Zone, Carpinteria (Site ID 2800) by the Xerces Society and clearly mapped on their website's interactive map, available at <https://westernmonarchcount.org/map-of-overwintering-sites/>. It is Occurrence number 269 in the California Native Diversity Database (CDFW 2024), however the data is in the process of being updated with current Xerces Society mapping. This habitat is designated as an Environmentally Sensitive Habitat Area (ESHA) in the Carpinteria General Plan (2003). The 2018 Meade report states: "Thousands of monarchs have been recorded overwintering at this site year after year since 1997. Over the years, the monarchs have roosted on various eucalyptus trees and Monterey pines at this site. During the 2016-2017 season, monarchs were observed aggregating in a corner of blue gum eucalyptus on the east side of Dump Road near Venoco's Gate 1. The clusters of monarchs were approximately 13 to 33 feet high in the eucalyptus trees." (page 203 of Meade 2018).

XS-1

The Draft EIR Decommissioning and Remediation of the Chevron Carpinteria Oil & Gas Processing Facility Project, Terrestrial Biological Resources Study, Tree Report, and Tree Maintenance and Hazard Reduction Plan base their impact analysis on the assumption that the only monarch overwintering habitat is within an area of the project site referred to as the Buffer Zone. However, this assumption is incomplete. Monarch butterflies are documented and reported to aggregate throughout the windrows along Dump Road in Shop and Maintenance Area, Former Nursery Area, and Former Marketing Terminal Area, in addition to the Buffer Zone.

Furthermore, there is no mention or record of monarch butterflies surveys during the monarch overwintering season (October – March) on the Chevron Project site or within the monarch butterfly ESHA prior to the tree maintenance project implementation.

**XS-1**

Monarch butterfly surveys during the overwintering season is standard practice prior to any tree work in monarch ESHA and is essential to understanding the monarch behavior and habitat use at a specific site. The Terrestrial Biological Resources Study includes records and findings of 19 nesting bird surveys from March to May, 2023 which shows the understanding of the importance of the habitat for raptors and nesting birds. The absence of monarch butterfly surveys during the overwintering season in ESHA prior to tree maintenance work is a grave omission of due diligence and shows a failure to protect a sensitive species which is a candidate species under the federal Endangered Species Act, with anticipated listing in fall 2024. The monarch butterfly is also designated as a Species of Greatest Conservation Need in the state of California, and is included in the State Wildlife Action Plan. The species is also recognized by the California Department of Fish and Wildlife as a Special Status Invertebrate. Handling of monarchs requires a permit from the California Department of Fish and Wildlife. The California overwintering population of monarchs is included on CDFW's Special Animals List (CNDDDB 2023). More information can be found here: <https://wildlife.ca.gov/Conservation/Invertebrates/Monarch-Butterfly>.

The tree maintenance project actions during summer through November 2023 significantly and negatively impacted monarch aggregation habitat. Monarch aggregation trees and branches were pruned and topped during peak monarch overwintering season. The timing of this tree work removed roosting branches and disturbed roosting monarchs. The biological monitor present during the tree work in November 2023 documented the presents of monarch butterflies, and thus documented that the project disturbed and disrupted overwintering monarch butterflies while removing roosting sites and habitat. Future planned tree removals in the Tree Maintenance and Hazard Reduction Plan will continue to negatively impact documented monarch aggregation habitat.

This tree work was implemented in November 2023 during monarch overwintering season before the Draft EIR comment period or approval.

The impact statement for monarch butterfly habitat is stated in the Draft EIR as potentially significant, which is correct but incomplete in its extent.

## **SPECIFIC COMMENTS BY DOCUMENT**

### **Draft EIR**

**XS-2**

Page 4.3-52 Monarch Butterfly section states "Impacts to Monarch butterfly habitat from Project related activities including tree removal and trimming, and noise-related impacts are considered potentially significant." Comment: The potentially significant impact is correct, but the extent of the impact analysis did not include current monarch aggregation location data. Dust will also be a potentially significant impact if it is not mitigated during the overwintering season.



### C-1 Terrestrial Biological Resources Study by Padre Inc.

- XS-3** Page 2-5/C-8 Tree windrows/EUC unranked. Comment: When trees are monarch overwintering habitat in the coastal zone, they are ranked and protected as Environmentally Sensitive Habitat Area (ESHA).
- XS-4** Page 2-7/C-10 states "...historically, the windrow between the Buffer Zone and Former Marketing Terminal Area has supported roosting monarch butterflies, particularly on the Buffer Zone (west) side of the windrow." Comment: The Buffer Zone and Former Marketing Terminal Area supported monarch butterfly aggregation currently and consistently until the recent tree trimming occurred in 2023. See Photos 3-5 and Figure 1.
- XS-5** "The trees provide cover and roosting habitat for a number of bird species and historically for monarch butterflies." Comment: Use "currently", instead of "historically". This is an active monarch overwintering site utilized by thousands of monarchs. The term "historically" is used to refer to monarch sites that have not had monarchs present for several years or decades.
- XS-6** Page 2-15/C-18 states "...which observed as many as 5,990 monarchs in 2016, and steadily declined to observe only three (3) monarchs in 2020." Comment: These 5,990 monarchs in 2016 were observed in the windrows along Dump Road (see Figure 1, Photos 3-5) and not in the Buffer Zone. The statewide decline does not warrant the explanation that a site has become "historic". The population has since rebounded and the windrows along Dump road supported aggregations of monarchs like previous years with similar sized populations.
- XS-7** Page 2-16/C-18 states "Thus, the disappearance of aggregating Monarchs at the Buffer Zone may potentially be caused by the effects described above at other sections of their migratory route." Comment: This statement is an incorrect postulation. Monarchs utilize the habitat along Dump Road in addition to the Buffer Zone. The population has rebounded since the low numbers of 2018-2020 and continues to utilize this habitat.
- XS-8** Page 2-16/C-18 Table 5 states "On-site (fall and late winter). Buffer Zone supports a historical aggregation site, with as many as 5,990 individuals observed in 2016, but only 3 individuals observed in 2020 (Xerces Society, 2020)." Comment: The aggregation site is not historical, it is a current and active aggregation site. Monarch habitat should include the Shop and Maintenance Area, Former Nursery Area, and Former Marketing Terminal Area, in addition to the Buffer Zone. A population decline for a few years does not lessen the importance for the protection of established sites with long-term use. The Xerces Society 2020 reference is for the Western Monarch Thanksgiving Count numbers only and not the location of monarch observations. No information was gathered for the current location of monarch observations for this report.
- XS-9** Table 5 lists the nearest known location of the monarch butterfly as "On-site (fall and late winter). Buffer Zone supports a historical aggregation site, with as many as 5,990 individuals observed in 2016, but only 3 individuals observed in 2020 (Xerces Society,

**XS-9** 2020).” Comment: The population of 5,990 individuals were not observed in the Buffer Zone in 2016. They were observed in the windows along Dump Road as shown in Figure 1. The nearest known locations of monarch butterfly needs to be expanded (see Figure 1).

**XS-10** Table 5 lists the status of the monarch butterfly as PD which stands for “PD Petition for ESA listing deferred (USFWS).” Comment: this is a misleading label. The monarch butterfly is a Federal Candidate species, but work precluded due to higher-priority listing actions.

### C-2 Tree Report

**XS-11** Page 4-3/C-57 states “Sixty (60) of the trees evaluated are blue gum (*Eucalyptus globulus*) trees, which are planted in the Main Plant Area middle east-west windrow, the Main Plant Area southern north-south windrow, and in the Chevron Pipeline Area east-west windrow.” Comment: These 60 trees proposed for removal appear to be outside of the known monarch aggregation habitat along Dump Road, however they could offer important wind protection (support habitat) to the monarch aggregation areas. In addition, these areas are not publicly accessible to Western Monarch Thanksgiving Count (WMTC) volunteers and thus it is unclear whether these trees serve as monarch aggregation habitat. Removing trees in the monarch aggregation area outlined in Figure 1 could have a significant negative impact to monarch aggregation habitat.

**XS-12** Page 5-2/C-64 states “No monarch butterfly roosting habitat trees (e.g., blue gum trees within the BZA) are proposed for removal; therefore, replacement of tree removals with additional nonnative trees such as blue gum are not recommended or proposed.” Comment: Thank you for not proposing the removal of the monarch butterfly roosting habitat trees within the Buffer Zone Area. However, monarch roosting trees are known to be present outside of the Buffer Zone Area. The trees outside of the Buffer Zone Area also need to be protected from removal or be recommended for replacement plantings of additional non-native blue gum trees.

### C-3 Tree Maintenance and Hazard Reduction Plan

**XS-13** Page 1-1/C-102 states “Approximately 110 trees planned for tree maintenance are located along the southeast margin of the Buffer Zone, within or immediately adjacent to city-defined Environmentally Sensitive Habitat Area (ESHA), but none of these trees are planned for removal. According to conversations onsite with Branch Out Tree Care, trees within this area exhibiting hazardous conditions would be topped and/or trimmed of lateral branches extending toward sensitive targets below (e.g., the Former Marketing Terminal Area and the Union Pacific Railroad), but their remaining lower canopy would be left intact to maintain suitable cover and visual screening.” Comment: Topping and/trimming trees within monarch overwintering habitat reduces wind protection and cover and reduces habitat quality. Allowing the remaining lower canopy to be left intact

**XS-13** is not enough to maintain suitable cover for monarch overwintering and still results in a significant negative impact to monarch ESHA. The topping and trimming of lateral branches of trees along Dump Road by Branch Out Tree Care in 2023 rendered the trees bare of suitable roosting branches and wind protection for monarch butterflies. No lower canopy was left intact to maintain suitable cover and visual screening by the Branch Out Tree Care crew.

**XS-14** Page 1-1/C-102 states “The larger proportion of trees in ESHA would be protected in place to maintain monarch butterfly, avian and other wildlife habitat.” Comment: All the known monarch aggregation habitat should be protected in place to maintain monarch butterfly habitat quality. Unfortunately, the known monarch aggregation trees along Dump Road have already been topped and pruned resulting in a significant negative impact to monarch ESHA. These trees need to be allowed to regrow to the best of their ability; additional restoration efforts are also necessary to address the damage to monarch habitat.

**XS-15** Page 1-1/C-102 states “A qualified biologist has conducted pre-activity surveys and will provide regular oversight for protection of nesting birds or other sensitive biological resources.” Comment: None of these pre-activity surveys occurred within the peak of monarch butterfly overwintering season (November and February) in order to observe and document the location of monarch aggregations and understand habitat use. A total of 19 surveys were conducted for nesting birds, but none were targeted monarch surveys.

**XS-16** Page 3-1/C-104 states “Pre-activity biological surveys were performed by Padre Associates, Inc. on Friday, Monday, and Tuesday, March 3, 6, and 7, 2023, with follow-up visits on March 20, March 27 through 31, April 1, 3, 4, 10, 12, 13, 18, and 24, and May 19, and 25, 2023.” Comment: All these pre-activity biological surveys occurred outside of the peak of monarch butterfly overwintering season (November and February) and thus were unable to observe and document the location of monarch aggregations in ESHA. Pre-activity biological surveys within the peak of monarch butterfly overwintering season is standard practice for projects within monarch ESHA. This oversight resulted in the topping and pruning of monarch aggregation trees and the significant negative impact to monarch ESHA.

**XS-17** Page 2/C-117 Survey Results, Survey Comments states “Particular attention was paid to the presence of nesting avian species, monarch butterflies, and fossorial reptiles. Individual monarch butterflies were observed within and around the proposed work area, but no aggregations were observed.” Comment: No particular attention was paid to monarch butterflies. Not one survey occurred during the monarch overwintering season. The surveys occurred outside of the overwintering season after the spring dispersal when no aggregation were present.

**XS-18** Page 2/C-117 Survey Results, Survey Recommendations states “Should aggregations of monarch butterflies be observed within any trees due to be trimmed or removed, work should be stopped and crews should contact a qualified biologist to provide conservation

- XS-18** recommendations.” Comment: Pre-activity surveys occurred in the monarch aggregation areas in March which is at the end of monarch aggregation season. Monarch butterflies usually disperse from overwintering sites by or before March and aggregations of monarchs are unlikely to be observed.

#### **Biological Survey Report (Page C-115)**

- XS-19** Page 1/C-116 Overwintering monarch butterflies should have been afforded the same rigorous survey focus in the biological survey report as nesting birds.
- XS-20** Page 6/C-121 Photo 9 is a monarch aggregation site, yet the survey on March 6, 2023 is outside of the overwintering season.

#### **Preliminary Restoration/Revegetation Plan (C-267)**

- XS-21** Page 3-1/C-267 Tree Replacement states “Tree windrows known to historically house a monarch butterfly aggregation in the Buffer Zone Area will not be affected by Project activities.” Comment: Monarchs are known to aggregate in the eucalyptus windrows outside of the Buffer Zone Area and these roost trees were significantly negatively affected by the tree maintenance activity that occurred in 2023 and during the monarch overwintering season. The Preliminary Restoration/Revegetation Plan is thus insufficient to restore the damage that occurred to monarch aggregation trees and habitat during the tree maintenance in 2023.
- XS-22** Page 3-1/C-267 Tree Protection. Comment: This section excludes monarch aggregation trees in the eucalyptus windrows. These trees should be protected, monitored, and allowed to revegetate after the tree pruning/topping activities.
- XS-23** Page 4-5/C-273 Revegetation Methods. Comment: To mitigate the damage to monarch aggregation habitat in the eucalyptus windrows by the tree maintenance project in 2023, we recommend planting toyon between the eucalyptus trees along the windrows to increase wind protection while allowing the eucalyptus trees to re-vegetate their canopy cover. A Monarch Butterfly Habitat Management and Protection Plan is recommended.

#### **Appendix D**

##### **Initial Study by MRS (Page D-3)**

- XS-24** Page 31/D-34 Biological Resources. Potentially Significant impacts from the proposed Project to Monarch Butterfly. “The biological resources assessments and analysis further identified the following types of mitigation to reduce the potential impacts to the species notes above to less than significant: Twice monthly surveys for the Monarch butterfly along with avoidance measures if roosting Monarch butterflies are found.” Comment: Monarch butterflies are known to be present and individuals were observed during



**XS-24** surveys, yet these twice monthly surveys have not occurred and avoidance measures were not implemented prior to the tree maintenance project. Thus, a substantial adverse effect occurred to a federal candidate and special status species and sensitive habitat.

**XS-25** Page 34/D-37 Biological Resources, subsection E, states “Less than significant. The proposed Project will require the removal of 62 non-native trees for soil excavation and remediation. None of these trees are located in City designated Open Space or ESHA areas.” Comment: These trees are present in monarch butterfly aggregation habitat and are thus located in ESHA. The removal of these would result in a potentially significant impact to monarch butterfly ESHA.

**XS-26** Page D-62. CDFW Comment letter. Comment: This letter excludes monarch butterflies and their habitat on site.

## RECOMMENDATIONS

**XS-27** A Monarch Butterfly Habitat Management and Protection Plan is recommended, along with the implementation of monarch butterfly habitat restoration.

## CONCLUSION

**XS-28** Monarch butterflies and their overwintering habitat were not included in the environmental documentation and failed to be surveyed or protected. Monarch overwintering habitat was damaged during the tree maintenance activities in 2023. Restoration action is needed to mitigate the damage and the correct and comprehensive protections for monarchs and monarch habitat need to be in place during the decommissioning.

Thank you for the opportunity to review this project.

Sincerely,



Emma Pelton  
Senior Conservation Biologist  
Xerces Society for Invertebrate Conservation



Charis van der Heide  
Santa Barbara regional coordinator for the Western Monarch Count

## **REFERENCES**

City of Carpinteria. 2003. City of Carpinteria General Plan and Local Coastal Plan and Environmental Impact Report. April.

California Natural Diversity Database (CNDDB). 2023. Special Animals List. California Department of Fish and Wildlife. Sacramento, CA. October.

California Department of Fish and Wildlife (CDFW). 2024. California Native Diversity Database.

Meade, Daniel E., Jessica Griffiths, Charis van der Heide, Francis Villablanca. 2018. Monarch Butterfly Overwintering Sites, Santa Barbara County, Santa Barbara. Althouse and Meade, Inc., Paso Robles, California.

**Figure 1. Monarch Aggregation Map**



## Site Photos



Photo 1. Monarch aggregation trees near Gate 1 after tree maintenance project was completed. Areas where monarchs were observed aggregating are circled in red. Monarch areas #1 on Figure 1. Photograph by Charis van der Heide. November 16, 2023.



Photo 2. Monarch aggregation trees near Gate 1 after tree maintenance project was completed. Areas where monarchs were observed aggregating are circled in red. Monarch areas #2 and #3 (right to left) on Figure 1. Photograph by Charis van der Heide. November 16, 2023.





Photo 3. Monarch aggregation trees near Gate 1, facing southwest (Area #2 on Figure 1). November 23, 2022.



Photo 4. Monarch aggregation trees near Gate 1 (Same photo as Photo 1 shown with red dots on monarch clusters), facing southwest. November 23, 2022.





Photo 5. Monarch aggregation trees near Gate 1, facing west. Monarch Location #2 on Figure 1. Photograph by Charis van der Heide. November 23, 2022.



Photo 6. Monarch aggregation trees near northern corner by Gate 1, facing northwest. Monarch Location #1 on Figure 1. Photograph by Charis van der Heide. November 23, 2022.



Photo 7. Monarch aggregation trees along Dump Road near Gate 1. Monarch Location #3 on Figure 1 is in the lower right corner. Photograph by Charis van der Heide. November 17, 2021.





Photo 8. Monarch tagging workshop at the monarch aggregation along Dump Road near Gate 1. Photograph by Charis van der Heide. January 27, 2017.



Photo 9. Monarch aggregations in trees on Dump Road near Gate 1. Photograph by Charis van der Heide. January 27, 2017.

**Attachment 1 – Western Monarch Thanksgiving Count Datasheets**



## **Appendix J**

### **Storm Water Pollution Prevention Plan**

**Appendix J – Storm Water Pollution Prevention Plan**

**Section**

**Page #**

Industrial Storm Water Pollution Prevention Plan for Carpinteria Oil and Gas Plant .....J-1

## **INDUSTRIAL STORM WATER POLLUTION PREVENTION PLAN FOR CARPINTERIA OIL AND GAS PLANT**

**Facility Address:**

5675 Carpinteria Avenue  
Carpinteria, Santa Barbara County, California

**Waste Discharge Identification (WDID):**

3 42I027549

**Exceedance Response Action (ERA) Status:**

Baseline

**Legally Responsible Person (LRP):**

Chevron U.S.A. Inc.  
9525 Camino Media, Bakersfield, California 93311  
Ms. Rebecca Trujillo, Regulatory Affairs Manager  
(805) 979-3506

**SWPPP Prepared by:**

Padre Associates, Inc.  
1861 Knoll Drive, Ventura, California 93003

**Initial SWPPP Preparation Date**

January 4, 2018

**SWPPP Revision Date**

May 24, 2024

## LEGALLY RESPONSIBLE PERSON

### Approval and Certification of the Storm Water Pollution Prevention Plan

Facility Name: Carpinteria Oil and Gas Plant  
(5675 Carpinteria Avenue, Carpinteria, California)

Waste Discharge Identification (WDID): 3 42I027549

"I certify under penalty of law that this document and all Attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Ms. Rebecca Trujillo  
Legally Responsible Person

Signature of Legally Responsible Person or  
Approved Signatory

Date

(661) 699-4498  
Telephone Number



## INDUSTRIAL SWPPP AMENDMENT LOG

Facility Name: Carpinteria Oil and Gas Plant  
(5675 Carpinteria Avenue, Carpinteria, California)

Waste Discharge Identification (WDID): 3 42I027549

Amendment No.	Date	Page and Section No.	Requested By	Brief Description of Amendment; include reason for change, Facility location, and BMP modifications.	Prepared / Approved By
1	5/24/24	Multiple	Chevron U.S.A. Inc.	Updated LRP, pollutant sources assessment, required monitoring parameters, types and estimated volumes of chemicals/materials stored at Facility, Facility contact, Facility Team Members, and update of industrial and / or hazardous materials inventory list in Table 2.2	Eva E. von Thury / Chris Prevost / James Tolar

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### APPENDICES

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APPENDIX E	SWPPP AMENDMENT CERTIFICATIONS
APPENDIX F	BMP IMPLEMENTATION LOG
APPENDIX G	FIELD FORMS
APPENDIX H	BMP FACT SHEETS (PDF COPY ONLY)



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## ACRONYMS

AMSL	Above Mean Sea Level
APN	Assessor's Parcel Number
AST	Aboveground Storage Tank
BMP	Best Management Practice
CASQA	California Stormwater Quality Association
COD	Chemical Oxygen Demand
COC	Chain of Custody
ERA	Exceedance Response Actions
HMBP	Hazardous Materials Business Plan
LRP	Legally Responsible Person
MDL	Method Detection Limit
MS4	Municipal Separate Storm Sewer System
NAL	Numeric Action Levels
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollution Discharge Elimination System
NSWD	Non-Storm Water Discharges
PDF	Portable Document Format
PPT	Pollution Prevention Team
PRD	Permit Registration Documents
QA	Quality Assurance
QC	Quality Control
QISP	Qualified Industrial SWPPP Practitioner
QSE	Qualified Storm Event
RWQCB	Regional Water Quality Control Board, Los Angeles Region
SMARTS	Storm Water Multi- Application Report Tracking System
SPCC	Spills Prevention, Control and Countermeasures
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State of California Water Resources Control Board
TSS	Total Suspended Solids
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds
WDID	Waste Discharge Identification

## 1.0 SWPPP REQUIREMENTS

### 1.1 INTRODUCTION

This Storm Water Pollution Prevention Plan (SWPPP) has been prepared by Padre Associates, Inc. (Padre), on behalf of Chevron U.S.A. Inc. (Chevron) and Ms. Rebecca Trujillo the Legally Responsible Person (LRP), to comply with California's General Permit for Storm Water Discharges Associated with Industrial Activities (General Permit) Order No. 2014-0057-DWQ (National Pollutant Discharge Elimination System [NPDES] No. CAS000001) issued by the State Water Resources Control Board (SWRCB). This updated SWPPP has been prepared for implementation at the Carpinteria Oil and Gas Plant (APNs 001-170-014, 001-170-022, and 001-170-023), 5675 Carpinteria Avenue, Carpinteria, Santa Barbara County, California (Facility). The Facility is under the jurisdiction of the Regional Water Quality Control Board, Central Coast Region (RWQCB-CCR). The initial SWPPP was prepared by EORM Environmental, Health, Safety, and Sustainability Consulting (presently known as The British Standards Institution Environmental Health and Safety [BSI EHS] Services and Solutions) in 2018 on behalf of Beacon West Energy Group, LLC (Beacon West). This updated SWPPP supersedes the 2018 SWPPP as of the date shown on the title page.

The Facility is currently occupied by the approximately 18-acre out-of-service Chevron Carpinteria Oil and Gas Plant that consists of operations buildings, industrial process equipment, above ground storage tanks, and maintenance buildings. The Facility and the associated Chevron-owned properties include a total of approximately 55-acres (Subject Property). The location of the Subject Property is shown on Plate 1 - Site Location Map and Plate 2 - Site Vicinity Map, both of which are provided in Appendix A of this SWPPP.

This SWPPP has been prepared generally following the SWPPP template provided on the California Stormwater Quality Association (CASQA) Storm Water *Best Management Practice Handbook Portal: Industrial and Commercial* (CASQA 2014). In accordance with the General Permit, Section X.A, this SWPPP contains the following required elements:

- Facility name and contact information;
- Facility map;
- List of significant industrial materials;
- Description of potential pollution sources;
- Assessment of potential pollutant sources;
- Minimum Best Management Practices (BMPs);
- Advanced BMPs, if applicable;
- Annual Comprehensive Facility Compliance Evaluation (Annual Evaluation); and,
- Date that the SWPPP was initially prepared and the date of each SWPPP amendment, if applicable.

## 1.2 PERMIT REGISTRATION DOCUMENTS

Required Permit Registration Documents (PRDs) have been submitted to the SWRCB via the Storm water Multi Application and Report Tracking System (SMARTS) by the LRP, or authorized personnel (i.e., Approved Signatory) under the direction of the LRP during the preparation of the initial SWPPP in 2018. The Facility-specific PRDs included:

- Notice of Intent (NOI);
- Signed Certification Statement (LRP Certification is provided electronically with SMARTS PRD submittal);
- Facility Map(s);
- SWPPP; and
- Annual Fee.

Maps showing the Facility and Subject Property can be found in Appendix A and a copy of the submitted PRDs are provided in Appendix B of the SWPPP, along with the Waste Discharge Identification (WDID) confirmation. This updated SWPPP will be uploaded into SMARTS. It should be noted that the field copy of the SWPPP will not include a hard copy of the General Permit; however, the Pollution Prevention Team can refer to the electronic version (PDF) of the General Permit at <https://www.waterboards.ca.gov/waterissues/programs/stormwater/igp/20140057dwq.html>, or it can be provided by Padre upon request.

In the event of future significant changes to the facility layout, the LRP will certify and submit new PRDs via SMARTS.

## 1.3 SWPPP AVAILABILITY AND IMPLEMENTATION

The SWPPP will be available at the Facility to all employees during all hours of operation (see Section 2.2 for the facility schedule) and will be made available upon request by a State or Municipal inspector. This SWPPP will be maintained in a cabinet in the Padre office onsite and will be implemented as of the date shown on the title of this report (this updated SWPPP will supersede the 2018 SWPPP).

## 1.4 POLLUTION PREVENTION TEAM

To facilitate development and implementation of this plan, Padre and Chevron have designated a Pollution Prevention Team (PPT) (see Table 1-1 below). The PPT is responsible for the following tasks:

- Implementing SWPPP and General Permit requirements;
- Making revisions as necessary to the SWPPP;
- Conducting monitoring program activities as required by the General Permit; and

- Conducting the Annual Comprehensive Compliance Evaluation and submitting the Annual Report.

A list of alternate team members is also provided, and these personnel will perform SWPPP activities when regular members of the PPT are absent or unavailable. This table will be updated as needed when there are changes to staff and staff responsibilities. All team members will be trained to perform the duties assigned to them. Employee training logs are provided in Appendix C.

The Qualified Industrial SWPPP Practitioner / Developer (QISP/D) for the Facility is identified in below in Table 1.1 and in Appendix D. The QISP will have primary responsibility for providing initial training to the appropriate Facility Team Members assigned to perform the activities required in this SWPPP.

**Table 1.1. Pollution Prevention Team**

Position	Responsibilities
<b>Legally Responsible Person / Approved Signatory</b>	
Rebecca Trujillo (Chevron)	Review and approval of the SWPPP; evaluate options for capital intensive BMPs and methods for spill prevention; and review/approval of annual reports.
<b>Principal in Charge</b>	
Jeff Damron, P.E. (Padre Associates, Inc.)	Review, approve, and evaluate options for capital intensive BMPs; evaluate process changes regarding plan revisions/updates; assist with Facility inspections; monitor BMP compliance, monitor / sample storm water, provide recommendations for plan revisions / additions as appropriate; and preparation of reports.
<b>Storm Water Pollution Prevention Plan Manager / QISP/D</b>	
Chris Prevost, P.E. (Padre Associates, Inc.)	Evaluate options for capital intensive BMPs; evaluate process changes regarding plan revisions/updates; assist with Facility inspections; monitor BMP compliance, monitor / sample storm water, provide recommendations for plan revisions / additions as appropriate; and preparation of reports.
<b>Facility Inspection and Sampling Personnel</b>	
James T. Tolar, P.G. (Padre Associates, Inc.) Eva E. von Thury, P.G. (Padre Associates, Inc.)	Evaluate process changes regarding plan revisions/updates; assist with Facility inspections; monitor BMP compliance; monitor / sample storm water; provide recommendations for plan revisions / additions as appropriate; preparation of reports.
<b>Facilities Manager</b>	
James T. Tolar, P.G. (Padre Associates, Inc.)	Coordinate and direct all on-Facility activities regarding plan implementation; maintain records; direct spill prevention activities; and review of reports. Review and implement the SWPPP; evaluate options for capital intensive BMPs; coordinate and direct all Onsite activities regarding plan implementation; direct spill prevention activities; monitor/sample storm water and preparation/review of reports.



Position	Responsibilities
<b>Field Staff</b>	
Will Wyatt, David Schneider, Tristan Hansberry, and Lauren Alamillo (Padre Associates, Inc.)	Install and maintain BMPs; purchase and maintain stock of BMPs for use Onsite; assist with Facility inspections; and monitor/sample storm water. Persons not named here may conduct these tasks as long as they have received the site-specific SWPPP training.

## 1.5 SWPPP AMENDMENTS

This SWPPP will be amended or revised, as needed. An amendment log is included on page ii, and amendment certifications are included in Appendix E. The amendment log will include the date of initial preparation and the date of each amendment. The SWPPP should be revised when:

- There is a General Permit violation;
- There is a reduction or increase in the total industrial area exposed to storm water;
- BMPs do not meet the objectives of reducing or eliminating pollutants in storm water discharges;
- There is a change in industrial operations which may affect the discharge of pollutants to surface waters, groundwater(s), or a municipal separate storm sewer system (MS4);
- There is a change to the parties responsible for implementing the SWPPP; or
- Otherwise deemed necessary by the QISP.

The following items will be included in each amendment:

- Who requested the amendment;
- The location of proposed change;
- The reason for change;
- The original BMP(s) proposed, if any; and
- The new BMP(s) proposed.

Amendments will be logged at the front of the SWPPP and certification kept in Appendix E. The SWPPP text will be revised, replaced, and/or hand annotated as necessary to properly convey the amendment. SWPPP amendments must be certified and submitted by the LRP via SMARTS within 30 days whenever the SWPPP contains significant revisions. With the exception of significant revisions, SWPPP changes may be certified and uploaded to SMARTS once every three (3) months in the reporting year.

## 1.6 RETENTION OF RECORDS

Paper or electronic records of documents required by this SWPPP will be retained for a minimum of five years from the date generated or date submitted, whichever is later, for the following items:

- Employee Training Records;
- BMP Implementation Records;
- Spill and Clean-up Related Records;
  - Records of Sampling and Analysis Information;
  - The date, exact location, and time of sampling or measurement;
  - The date(s) analyses were performed;
  - The individual(s) that performed the analyses;
  - The analytical techniques or methods used; and
  - The results of such analyses.
- Records of Visual Observations;
  - The date
  - The industrial areas/drainage areas of the facility observed during the inspection (Location);
  - The approximate time of the observation;
  - Presence and probable source of observed pollutants; and
  - Name of the individual(s) that conducted the observations.
- Response to the observations including identification of SWPPP revisions if needed;
- Level 1 ERA Reports;
- Level 2 ERA Action Plan;
- Level 2 ERA Technical Report; and
- Annual Reports from SMARTS (checklist and any explanations).

Copies of these records will be available for review by the RWQCB-CCR staff at the Facility during scheduled Facility operating hours. Upon written request by U.S. Environmental Protection Agency (U.S. EPA) or the local MS4, Dischargers will provide paper or electronic copies of requested records to the RWQCB-CCR, U.S. EPA, or local Municipal Separate Storm Sewer System (MS4) within ten working days from receipt of the request.

## 1.7 EXCEEDANCE RESPONSE ACTIONS

If a General Permit Numeric Action Level (NAL) exceedance occurs in a given reporting year, a Level 1 Exceedance Response Action (ERA) Evaluation and a Level 1 ERA Report will be required in the following year, or, if in a subsequent year, a Level 2 ERA Action Plan and a

Level 2 ERA Report will be required in accordance with the General Permit. The results of either of the ERA reports may require that the SWPPP be amended.

## **1.8 ANNUAL COMPREHENSIVE FACILITY COMPLIANCE EVALUATION**

The General Permit (Section XV) requires the Discharger to conduct one Annual Comprehensive Facility Compliance Evaluation (Annual Evaluation) for each reporting year (July 1 to June 30). Annual Evaluations will be conducted at least eight months and not more than sixteen months after the previous Annual Evaluation. The planned window for conducting the Annual Evaluation is between April and June of each year. The SWPPP will be revised, as appropriate, based on the results of the Annual Evaluation, and the revisions will be implemented within 90 days of the Annual Evaluation.

At a minimum, Annual Evaluations will consist of:

- A review of all sampling, visual observation, and inspection and monitoring records and sampling and analysis results conducted during the previous reporting year;
- A visual inspection of all areas of industrial activity and associated potential pollutant sources for evidence of, or the potential for, pollutants entering the storm water conveyance system;
- A visual inspection of all drainage areas previously identified as having no exposure to industrial activities and materials in accordance with the definitions in Section XVII;
- A visual inspection of equipment needed to implement the BMPs;
- A visual inspection of any BMPs;
- A review and effectiveness assessment of all BMPs for each area of industrial activity and associated potential pollutant sources to determine if the BMPs are properly designed, implemented, and are effective in reducing and preventing pollutants in industrial storm water discharges and authorized non-storm water discharges (NSWDs); and
- An assessment of any other factors needed to comply with the Annual Reporting requirements in General Permit Section XVI.B.

## **1.9 ANNUAL REPORT**

The Annual Report will be prepared, certified, and electronically submitted no later than July 15<sup>th</sup> following each reporting year using the standardized format and checklists in SMARTS based on the reporting requirements identified in Section XVI of the General Permit. Annual reports will be submitted in SMARTS and in accordance with information required by the on-line forms.

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## **1.10 TERMINATION AND CHANGES TO GENERAL PERMIT COVERAGE**

When any of the following conditions occur, termination of coverage under the General Permit will be requested by certifying and submitting a Notice of Termination (NOT) via SMARTS:

- Operation of the facility has been transferred to another entity;
- The facility has ceased operations, completed closure activities, and removed all industrial related pollutant generating sources; and/or
- The facility's operations have changed and are no longer subject to the General Permit.

The SWPPP and all of the provisions of the General Permit will be complied with until a valid NOT is received and accepted by the SWRCB.

If ownership changes, the new owner of the facility will be notified of the General Permit and regulatory requirements for permit coverage.



## 2.0 FACILITY INFORMATION

### 2.1 FACILITY DESCRIPTION

#### 2.1.1 Facility Location

The Facility is located at 5675 Carpinteria Avenue, Carpinteria, Santa Barbara County, California. The Facility is generally trapezoidal in shape with an approximate area of 18 acres; zoned by the City of Carpinteria as “M-CD - Industrial, Coast Industrial District”; and is identified by the Santa Barbara County Assessor’s Office as Assessor’s Parcel Numbers (APNs) 001-170-014, 001-170-022, and 001-170-023. The approximate center of the Facility is located at latitude 34.388076° / longitude -119.506764° and is identified on the site maps provided in Appendix A.

The designated areas and corresponding Santa Barbara County APNs that comprise the Carpinteria Oil and Gas Processing Facility and associated properties (Subject Property) totaling an approximate area of 55 acres are presented in the table below (refer to Appendix A). Note that only the Facility APNs are included as part of this SWPPP. The limits of the Facility are presented on Plate 2 and Plate 3 - Site Plan. All other areas of the Subject Property are undeveloped / fallow or do not have active industrial operations and are not included in this SWPPP.

**Table 2.1. Area Designations**

Area Designations	Assessor’s Parcel Number	Subject Property	Facility	Included in SWPPP
Carpinteria Oil and Gas Processing Facility (Oil and Gas Plant, Shop and Maintenance Area, Tank No. 861 Area, and Chevron Pipeline Area)	001-170-014, 001-170-022, and 001-170-023	Yes	Yes	Yes
MSRC Lease Area, Sales Gas Area, and Peninsula Area	001-170-023	Yes	No	No
Former Nursery Area (FNA), Former Marketing Terminal Area (FMTA), and Pitas Point Producer Facility	001-170-004	Yes	No	No
Buffer Zone Area (BZA)	001-170-003	Yes	No	No
Pier Parking Lot, former Sand Blast Area (FSBA) and Coastal Bluff	001-170-021	Yes	No	No

The Facility is located within the coastal zone near the southern boundary of Santa Barbara County, approximately 1,800 feet southeast of Carpinteria Creek. The Facility is relatively flat, but tiered from east to west with localized bermed areas and associated depressions with ground surface elevations at the Facility ranging from approximately 35 to 60 feet above mean sea level (AMSL). The Facility is bordered by the MSRC Lease Area and City of Carpinteria maintenance yard and government building to the north, the Tee-Time golf driving range and agricultural property to the east, by Dump Road, the former Marketing Terminal Facility,

the Buffer Zone and a residential neighborhood to the west, and Union Pacific Railroad, the Pier Parking Lot, and the Pacific Ocean to the south. The general vicinity of the Facility is relatively flat and gently sloping downward to the south-southwest, toward the Pacific Ocean. The nearest surface water body, other than the Pacific Ocean, is Carpinteria Creek (below Gobernador Creek), which is a drainage system located approximately 0.6 miles northwest of the Facility southwest corner. The Carpinteria Creek (below Gobernador Creek) is listed for water quality impairment on the most recent 303(d)-list for the following impairments (copy of 303(d) map provided in Appendix A as Plate 4 - 303(D) Map):

- Escherichia coli (E. coli)
- Nitrogen, Nitrate
- Dissolved Oxygen
- Sodium
- Toxicity
- Chloride

With the exception of trash, the abovementioned pollutants were included in the initial storm water sampling event for chemical analyses as required by the General Permit, which Padre understands was completed by Beacon West in January 2019 with the results uploaded to SMARTS.

## **2.1.2 Site Operations**

### **2.1.2.1 Current Operations**

The Facility is currently occupied by an idled oil and gas processing facility owned by Chevron that is in the process of facility decommissioning activities. Hydrocarbons are no longer being received or stored at the Facility. Operations include routine maintenance of the existing facilities, the planned systematic flushing of remaining fluids from piping, vessels, and tanks, as well as demolition and removal of the remaining above ground facilities.

### **2.1.2.2 Historical Operations**

A brief summary list of specific industrial activities that have historically taken place at the Facility is provided below:

- Receipt of crude oil and natural gas in separate buried 10-inch diameter pipes;
- Processing of natural gas to remove water and other liquids prior to compression and sale to the Southern California Gas Company;
- Extraction of natural gas liquids from the natural gas and blended with the crude oil stored in Tank 861; and
- Facility-related maintenance activities.

### 2.1.3 Existing Conditions

On January 22, 2024 and March 11, 2024 Padre completed a site reconnaissance of the Facility during the initial preparation of the SWPPP. Additionally, Padre completed a site walk of the Subject Property to verify and validate the existing site conditions surrounding the Facility for the preparation of this SWPPP update. The approximate locations of the identified features and areas discussed below are presented on Plate 3 (provided in Appendix A). This SWPPP applies to the Facility, which comprises approximately 18-acre area of the Subject Property (refer to Drainage Areas A through D on Plates 2 and 3).

**Buildings.** The Facility is currently developed with various idle operations buildings, industrial process equipment, above ground storage tanks, vessels, and maintenance buildings. The current combined building footprint area is approximately 1.04 acres (approximately 6% of total Facility area).

**Paved Parking, Access Roads, Concrete Pads, and Berm Protection.** The Facility includes a paved employee parking area, paved access roads, remnant concrete pads, and hydrocarbon-based berm protection that encompass approximately 7.16 acres within the Facility (approximately 40% of total Facility area).

**Unpaved Areas and Landscaping.** Unpaved areas include baserock or gravel covered areas located throughout the Facility, near tanks and pipelines. Native and non-native trees, plants, shrubs, and grasses grow in areas where base or asphalt has not been applied or where deteriorating, predominantly on the western portion of the Facility and along the Facility boundaries. The total unpaved and loosely landscaped areas account for approximately 9.8 acres of the Facility (approximately 54% of total Facility area).

**Outdoor Storage Areas / Outdoor Industrial-Related Areas.** The following outdoor materials handling and storage areas are present at the Facility:

- Shop and Maintenance Area (Drainage Area A);
- The Oil and Gas Processing Facility (Drainage Areas A and B); and
- Tank 861 Bermed Area (Drainage Area B).

The combined outdoor storage areas / idled outdoor processing areas is approximately 1.3 acres of asphalt / concrete covered areas (approximately 7% of total Facility area).

### 2.1.4 Description of Drainage Areas and Existing Drainage

Surface storm water flow occurs at the Facility during normal storm events as sheet flow over paved roads. In general, surface water flow at the Facility sheet flows and is directed to several onsite storm drain inlets, then flows underground via storm water piping and discharges in the bermed areas on the west side of the Facility where it is captured, ponds, and infiltrates into the soil. Storm water that discharges from the Facility enters a culvert inlet on the east side of Dump Road, is conveyed to a concrete-lined channel and subsequently flows offsite at the

southwest corner of the Subject Property, and eventually enters into the Pacific Ocean located approximately 900 feet west of the Subject Property.

The Facility as a whole is relatively flat and approximately 34 percent impervious (buildings, paved parking and roads, and other miscellaneous paved areas) and is generally divided into four drainage patterns/areas as described below. The Facility maps (Plates 1 through 3, Appendix A) show the area layout, including existing structures, the general Facility topography, drainage areas, and off-Facility storm water discharge locations.

**Drainage Area A - North Area.** This area is mostly asphalt-covered employee parking and roads and includes an administrative building and several storage sheds and containers. Vegetated areas are located adjacent to the western property boundary. Surface water runoff is generally west - southwesterly and is directed toward earthen berms in the southwest corner of the drainage area where the water ponds and percolates into the subsurface. Surface runoff in this drainage area is generally retained within the Facility and either evaporates or percolates into the subsurface.

**Drainage Area B - Central Area.** This area includes the majority of asphalt-paved employee parking and an administrative building on the central terrace that drains to a bermed depression located to the west. The area contains out-of-service process equipment and above ground storage tanks. Surface drains are present and centrally located within the unpaved and paved access roads, facilitating surface runoff from the upper terraces to the lower bermed area. Surface runoff is generally west-southwesterly and is directed toward the lower earthen bermed area at T-861 where it is retained to evaporate, percolate into the subsurface, and / or potentially be discharged as per the SWPPP. Storm water collected in this area is discharged via pump and discharge valve to a corrugated metal drain located beneath Dump Road. Unless storm water is pumped out, the ponded water at the Facility evaporates and percolates into the subsurface.

**Drainage Area C - Southwest Area.** This area contains remnant industrial operations equipment, which includes crude oil shipping equipment, a building, as well as former materials storage and handling areas. Surface water runoff is generally directed to the west-northwest corner within this area along paved roads where it is retained to evaporate or percolate into the subsurface. This retained storm water may also potentially be discharged as per the SWPPP via a discharge valve. Storm water discharged from this area is directed via an earthen drainage ditch to a concrete-lined drain on the west side of Dump Road.

**Drainage Area D - Southeast Area.** This area consists of exposed earthen materials and idle gas processing equipment with surface drainage directed toward the southeastern corner of the Facility, to an area bermed and densely vegetated area near a closed emergency drainage valve from which no discharge has been recently documented. Stormwater in this area either evaporates or infiltrates to the subsurface.

### **2.1.5 Storm Water Run-On from Off Facility Areas**

The Facility does not receive any run-on from areas outside of the Facility. However, storm water run-on to the Subject Property reportedly can occur during high intensity storm events



from Carpinteria Avenue, north of the Subject Property from the City of Carpinteria's maintenance yard, and from the Union Pacific Railroad property. The run-on is conveyed to the drain on the east side of Dump Road that eventually flows to the Pacific Ocean.

The General Permit requires that BMPs be implemented to direct off-Facility and non-industrial run-on away from industrial areas and erodible surfaces. If run-on to industrial or erodible areas is detected during storm event inspections, this SWPPP will be amended to include measures for redirecting run-on away from the Facility.

## **2.2 OPERATIONS SCHEDULE**

The Facility operations are generally conducted 8-hours per day and five days a week on a routine and as needed basis. For purposes of trained staff availability and assumed daylight hours, sampling and inspections outlined in this SWPPP will be implemented Monday through Friday from approximately 7:00 a.m. to 5:00 p.m. However, pumping and discharging activities may occur any time including holidays based on operational needs and trained resource availability. A copy of the SWPPP will be made available to site staff at all times. A copy of the SWPPP will be available to regulatory agency personnel upon request.

If industrial activities are temporarily suspended for ten or more consecutive calendar days during a reporting year, BMPs that are necessary to achieve compliance with this General Permit during the temporary suspension of the industrial activity will be identified and incorporated into the SWPPP.

## **2.3 POTENTIAL POLLUTANT SOURCES AND ASSESSMENT**

This section presents a list of all industrial materials and potential pollutant sources at the Facility. It identifies specific pollutants associated with these sources and pollutant sources that are most susceptible to storm water exposure. A summary of significant spills and leaks that have occurred at Facility is also provided.

The following is a narrative assessment of areas of industrial activity with potential industrial pollutant sources which was based on the historical usage of the Facility, as well as previous use may impact current conditions.

### **2.3.1 Description of Historical Industrial Processes and Potential Pollutant Sources**

The Facility was operated for oil and gas processing from 1959 to 2017. The crude oil was shipped off-site via underground pipeline in batches. The transfer of crude oil and natural gas were conveyed in buried piping and have not exposed to storm water. Natural gas was received via underground pipeline from off-shore facilities and processed onsite. After processing, the natural gas was compressed and sold to the Southern California Gas Company. The Facility also utilized a variety of chemicals used in industrial processes. The Facility's former industrial processes occurred indoors and outdoors, in pipes and equipment designed for the applicable environment, with monitoring systems and secondary containment that could contain leaks and drips to allow for proper disposal, as needed. Each of the Drainage Areas A through D identified this SWPPP contain idled equipment and

are related to the former crude oil and natural gas processing activities that occurred at the Facility. The historical oil and gas processing activities have resulted in impacts to surface materials located at the Facility.

### 2.3.2 Description of Current Industrial Processes and Potential Pollutant Sources

It should be noted that the Facility is currently in the process of decommissioning and no industrial activities are currently taking place onsite. All of the industrial processes described in this SWPPP describe processes that have historically taken place at the Facility and are the source of potential contaminants addressed in this SWPPP.

A list of associated materials/chemicals that are anticipated to be used or stored at the Facility, specifically outdoors, where they may be exposed to storm water and could potentially contribute pollutants to storm water runoff is provided below in Table 2.1. The potential pollutants provided in Table 2.1 contribute to the basis for selecting the BMPs for the Facility (Section 3) and for selecting the analytical constituents to monitor in storm water discharge samples (Section 5.6.4). It should be noted that all materials / wastes storage areas are covered and / or are located in secondary containment. Additionally, spill control supplies, equipment, and procedures are in-place to be deployed as needed.

**Outdoor Materials and Chemical Storage Areas / Shed.** The following outdoor material handling and storage areas are present at the Facility:

- Shop and Maintenance Area (Drainage Area A);
- The Oil and Gas Processing Facility (Drainage Areas A and B);
- Tank 861 Bermed Area (Drainage Area B); and
- Chevron Pipeline Area (Drainage Area C).

A description of the location, processes, materials and drainage characteristics are presented below:

- **Shop and Maintenance Area**
  - Located in the western portion of Drainage Area A, the Shop and Maintenance Area contains a Shop and Maintenance building, as well as equipment and material storage areas. Materials stored in this area range include decommissioned piping, storage vessels, and sea vans / connex boxes.
  - Drainage Area A has both paved and unpaved areas, the latter of which are subject to soil erosion. Storm water collected in this area collects in the southwest corner of Drainage Area A, which percolates into the soil and / or evaporates.
  - Good housekeeping measures are taken to keep the areas tidy and minimize potential pollutant contact with storm water.
- **Oil and Gas Processing Facility.**
  - Located at the central and eastern portions of the Facility, the Oil and Gas Processing Facility encompasses large portions of Areas A and B. Idled Ingersoll

Rand Compressors and a Cooper Compressor are located in buildings in Drainage Area A. Residual compressor oil is present on concrete beneath metal grating within the building's footprints.

- Electrical services to power the remaining active operations (numerous lights, buildings, etc.) are managed by transformers containing dielectric oils. Three transformers with dielectric oils containing polychlorinated biphenyls (PCBs) are located at the northeastern portion of Drainage Area A. Spill control supplies, equipment, and procedures are in-place to be deployed as needed.
- Other potential pollution sources include residual hydrocarbons associated with remaining equipment, as well as lead-based paint shed from equipment and piping located in the Oil and Gas Processing Facility.
- **Tank 861 Bermed Area.**
  - Located at the central western portion of the Facility in Drainage Area B, Tank 861 is a 9-million-gallon capacity crude oil storage tank that stored crude oil processed from onsite oil / gas processing at the eastern portion of Drainage Area B and extracted liquids from the natural gas. Although T-861 was drained and cleaned in 2022 / 2023 and vented, rainwater that accumulates in the tank as a waste is pumped from the tank for offsite proper disposal.
  - The majority of the Facility's storm water run-off either flows directly to or is diverted to the bermed storm water containment in Drainage Area B from areas including the Oil and Gas Processing facility and Tank 861. A pump and discharge valve / piping are designed to discharge accumulated storm water outside of the Facility into the east-west concrete drainage channel. Given historical and current operations at the facility, this water has the potential to contain total petroleum hydrocarbons (TPH), and benzene, toluene, ethylbenzene, total xylenes (BTEX).
- **Chevron Pipeline Area.**
  - Located at the southwestern portion of the Facility, the Chevron Pipeline Area contains active electrical equipment including a main switch gear and electrical transformers, as well as former crude oil shipping infrastructure. Transformers are located within secondary containment.
  - Other potential pollution sources include residual hydrocarbons associated with previous equipment, as well as lead-based paint shed from equipment and piping located in the Chevron Pipeline Area.
  - Currently, the Chevron Pipeline Area storm water at Drainage Area C either flows directly to a bermed storm water containment constructed with a discharge valve or runs off-Facility toward Dump Road and into the east-west concrete drainage channel. Given historical and current operations at the facility, this water has the potential to contain TPH and BTEX.

- **Unpaved Surfaces.**

- As noted previously, there are unpaved areas throughout the Facility. Landscaping and vegetation are preserved where feasible, especially to reduce dust and particulate matter transportation.
- Surface water within these unpaved areas typically pools within the low-lying areas, where the water evaporates and percolates into the subsurface.
- Based on the abovementioned historical industrial processes, the unpaved surfaces at the Facility are considered to be a potential source of storm water pollutant (i.e., suspended solids).

### 2.3.3 Significant Spills and Leaks

The historical oil and gas processing activities have resulted in impacts to surface materials located at the Facility in the areas including but not limited to former buildings and equipment. There is a history of spills and / or leaks documented at the Facility, although the remaining chemicals and raw materials are used and stored indoors or in covered areas. Spills and leaks will be prevented by implementing the BMPs described in Section 3.

The Facility is listed on the State of California GeoTracker website as Global I.D. No. T10000006195 and Santa Barbara County Environmental Health Services, Site Mitigation Unit Case No. 271 pending planned soil remediation activities for the presence of TPH, volatile organic compounds (VOCs), and Title 22 metals. PCBs in shallow soil at the Facility are also pending soil remediation under oversight by the U.S. Environmental Protection Agency (U.S. EPA). Given historical and current operations at the facility, this water has the potential to contain TPH, VOCs, Title 22 metals, and PCBs.

**Table 2.2. List of Industrial Materials**

Material	Storage Location	Receiving and Shipping Location	Handling Location	Quantity Stored	Frequency
Dielectric Oils	Transformers	--	Transformers	300 Gallons	--
Diesel Fuel	Jerry Cans, Maintenance Shop	Fill up Offsite, Used On-Site	Backup Generators - Maintenance Shop, Oil and Gas Processing Facility	30 Gallons	As needed
Oil Coated Solids/Debris	Maintenance Shop, Oil and Gas Processing Facility	Generated On-Site	Maintenance Shop, Oil and Gas Processing Facility	16 Tons	As needed
Produced Waste Water	T-861, Waste Storage Areas	Produced On-Site	T-861, Waste Storage Areas	Varies	As needed



## 2.4 IDENTIFICATION OF NON-STORM WATER DISCHARGES (NSWDS)

Non-storm water discharges (NSWDs) consist of discharges which do not originate from precipitation events. The General Permit provides allowances (authorized discharges) for specified NSWDS provided they:

- Do not cause erosion;
- Do not carry other pollutants;
- Are not prohibited by the local MS4; and
- Do not require a separate NPDES Permit from the Regional Water Board.

NSWDs into storm drainage systems or waterways, which are not authorized under the General Permit and listed in the SWPPP, or authorized under a separate NPDES permit, are prohibited.

Identified authorized non-storm water discharges at the Facility currently include:

- Fire hydrant operation and system maintenance. Fire hydrant operation and system maintenance occurs as needed throughout the facility;
- Uncontaminated atmospheric condensates. Regular equipment service and cleaning is conducted to minimize flow and contact with industrial activities;
- Uncontaminated groundwater, spring water, foundation water, or footing drainage; and
- Irrigation/landscape watering provided all pesticide, herbicide, and fertilizers are applied in accordance with manufacturer's recommendations and watering is monitored to ensure flow is minimized.

Monthly visual observations will be conducted according to the General Permit (Section XI.A.1) for NSWDS and sources to ensure adequate BMP implementation and effectiveness. Monthly visual observations include observations for evidence of unauthorized NSWDS.

Possible activities identified at the Facility that may result in unauthorized non-storm water discharges may include:

- There were no observed indications of unauthorized non-storm water discharges at the Facility.

Steps will be taken, including the implementation of appropriate BMPs as defined in Section 3, to ensure that unauthorized NSWDS are eliminated, controlled, disposed of-Facility, or treated on-Facility.

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## **2.5 REQUIRED FACILITY MAP(S) INFORMATION**

Maps of the Facility and surrounding areas are provided in Appendix A (Plates 1 through 3), and include the information required by the General Permit. The maps include information regarding the facility boundary and storm water drainage areas, impervious areas, surface flow directions, locations and descriptions of all industrial activities and materials, locations of existing BMPs, and locations and descriptions of all structural control measures, if any.

### **3.0 BEST MANAGEMENT PRACTICES**

#### **3.1 MINIMUM BMPS**

The General Permit specifies five minimum BMP requirements (referred to as minimum BMPs) that are required for facilities covered under the General Permit. These minimum BMPs include: 1) good housekeeping; 2) preventative maintenance; 3) spill and leak prevention and response; 4) material handling and waste management; and 5) erosion and sediment control. Additional required administrative BMPs include employee training program and quality assurances and record keeping.

All minimum BMPs that are required by the General Permit and necessary to meet the Facility conditions will be implemented. Guidance for BMP implementation is provided in the CASQA Stormwater BMP Handbook Portal: Industrial and Commercial Fact Sheets and the relevant fact sheets are included in Appendix H. Sections 3.1.1 through 3.1.5 list the requirements for each of these minimum BMPs. Minimum BMPs will be implemented for additional targeted industrial activities, equipment, and materials as necessary. If any of the required minimum BMPs are applicable but cannot be implemented, an explanation and alternative approach will be provided in the following sections.

Table 3.1 provides a list of five minimum General Permit BMP elements that are included in the relevant BMP fact sheets and indicates which BMPs are implemented at the Facility. Employee Training, described in Section 3.1.6, and Quality Assurance and Record Keeping, described in Section 3.1.7, are additional administrative BMPs that will be implemented.

As required by the General Permit, a summary of all implemented or recommended Facility-specific BMPs is included in Section 3.3. The schedule for Facility-specific BMP implementation and the requirements for inspection and maintenance are contained in Section 4.

##### **3.1.1 Good Housekeeping**

The following good housekeeping measures will be implemented, where applicable, in accordance with the General Permit (Section X.H.1.a):

- Observe all outdoor areas associated with industrial activity including storm water discharge locations, drainage areas, conveyance systems, waste handling/disposal areas, and perimeter areas impacted by off-facility materials or storm water run-on to determine housekeeping needs. Any identified debris, waste, spills, tracked materials, or leaked materials will be cleaned and disposed of properly;
- Minimize or prevent material tracking;
- Minimize dust generated from industrial materials or activities;
- Ensure that all facility areas impacted by rinse/wash waters are cleaned as soon as possible;

**Table 3.1. Minimum BMPs**

CASQA Fact Sheet Number	CASQA BMP Fact Sheet Name	Addresses Minimum General Permit BMP Requirements (Minimum BMPs)					BMP to be Implemented?		
		Good Housekeeping	Preventative Maintenance	Spill and Leak Prevention and Response	Material Handling and Waste Management	Erosion and Sediment Control	YES	NO	Not Applicable
SC-10	Non-Storm Water Discharges	✓		✓	✓		✓		
SC-11	Spill Prevention, Control, and Cleanup			✓			✓		
SC-20	Vehicle and Equipment Fueling	✓	✓	✓	✓		✓		
SC-21	Vehicle and Equipment Cleaning	✓	✓	✓	✓		✓		
SC-22	Vehicle and Equipment Maintenance and Repair	✓	✓	✓	✓		✓		
SC-30	Outdoor Loading and Unloading	✓		✓	✓		✓		
SC-31	Outdoor Liquid Container Storage		✓	✓	✓		✓		
SC-32	Outdoor Equipment Operations	✓	✓	✓	✓		✓		
SC-33	Outdoor Storage of Raw Materials	✓	✓	✓		✓	✓		
SC-34	Waste Handling and Disposal	✓	✓	✓	✓		✓		
SC-35	Safer Alternative Products								✓
SC-40	Contaminated or Erodible Surfaces	✓				✓	✓		
SC-41	Building and Grounds Maintenance	✓		✓	✓		✓		
SC-42	Building Repair, Remodeling, and Construction								✓
SC-43	Parking Area Maintenance	✓	✓	✓			✓		
SC-44	Drainage System Maintenance	✓	✓	✓		✓	✓		
<b>Additional BMPs Implemented:</b>									
Refer to Section 3.2 for Advanced BMPs that are currently implemented at the Facility									



- Cover all stored industrial materials that can be readily mobilized by contact with storm water;
- Contain all stored non-solid industrial materials or wastes (e.g., particulates, powders, shredded paper, etc.) that can be transported or dispersed by the wind or contact with storm water;
- Prevent disposal of any rinse/wash waters or industrial materials into the storm water conveyance system;
- Minimize storm water discharges from non-industrial areas (e.g., storm water flows from employee parking area) that contact industrial areas of the facility; and
- Minimize authorized NSWDS from non-industrial areas (e.g., potable water, fire hydrant testing, etc.) that contact industrial areas of the facility.

BMPs to be implemented at the Facility are listed in Table 3.1 and the relevant fact sheets are included in Appendix H (PDF copy only).

### **3.1.2 Preventative Maintenance**

The following preventative maintenance measures will be implemented, where applicable, in accordance with the General Permit (Section X.H.1.b):

- Identify all equipment and systems used outdoors that may spill or leak pollutants;
- Observe the identified equipment and systems to detect leaks, or identify conditions that may result in the development of leaks;
- Establish an appropriate schedule for maintenance of identified equipment and systems; and
- Establish procedures for prompt maintenance and repair of equipment, and maintenance of systems when conditions exist that may result in the development of spills or leaks.

Specific preventative maintenance BMPs to be implemented at the Facility are listed in Table 3.1 and the relevant fact sheets are included in Appendix H (PDF copy only).

### **3.1.3 Spill and Leak Prevention and Response**

The following spill and leak prevention and response measures will be implemented, where applicable, in accordance with the General Permit (Section X.H.1.c):

- Establish procedures and/or controls to minimize spills and leaks;
- Develop and implement spill and leak response procedures to prevent industrial materials from discharging through the storm water conveyance system. Spilled or leaked industrial materials will be cleaned promptly and disposed of properly;

- Identify and describe all necessary and appropriate spill and leak response equipment, location(s) of spill and leak response equipment, and spill or leak response equipment maintenance procedures; and
- Identify and train appropriate spill and leak response personnel.

Specific spill and leak prevention and response BMPs to be implemented at the Facility are listed in Table 3.1 and the relevant fact sheets are included in Appendix H (PDF copy only).

### **3.1.4 Material Handling and Waste Management**

The following material handling and waste management measures will be implemented, where applicable, in accordance with the General Permit (Section X.H.1.d):

- Prevent or minimize handling of industrial materials or wastes that can be readily mobilized by contact with storm water during a storm event;
- Contain all stored non-solid industrial materials or wastes (e.g., particulates, powders, shredded paper, etc.) that can be transported or dispersed by the wind or contact with storm water during handling;
- Cover industrial waste disposal containers and industrial material storage containers that contain industrial materials when not in use;
- Conduct periodic inspections of the tanks for container integrity, spills, and leaks;
- Clean all spills of industrial materials or wastes that occur during handling in accordance with the spill response procedures (General Permit Section X.H.1.c); and
- Observe and clean as appropriate, any outdoor material or waste handling equipment or containers that can be contaminated by contact with industrial materials or wastes.

Specific material handling and waste management BMPs to be implemented at the Facility are listed in Table 3.1, and the relevant fact sheets are included in Appendix H (PDF copy only).

### **3.1.5 Erosion and Sediment Controls**

The following erosion and sediment control measures will be implemented, where applicable, in accordance with the General Permit (Section X.H.1.e):

- Implement effective wind erosion controls;
- Provide effective stabilization for all disturbed soils and other erodible areas prior to a forecasted storm event;
- Maintain effective perimeter controls and stabilize all Facility entrances and exits to sufficiently control discharges of erodible materials from discharging or being tracked off the Facility; and
- Divert run-on and storm water generated from within the facility away from all erodible materials.

Specific erosion and sediment control BMPs to be implemented at the Facility are listed in Tables 3.1 and 3.2, and the relevant fact sheets are included in Appendix H (PDF copy only).

### **3.1.6 Employee Training Program**

An employee training program will be implemented in accordance with the following requirements in the General Permit (Section X.H.1.f):

- Ensure that all team members implementing the various compliance activities of this SWPPP are properly trained in topics including but not limited to: BMP implementation, BMP effectiveness evaluations, visual observations, and monitoring activities;
- Prepare or acquire appropriate training manuals or training materials;
- Identify which personnel need to be trained, their responsibilities, and the type of training they will receive;
- Provide a training schedule; and
- Maintain documentation of all completed training classes and the personnel that received training in the SWPPP.

The Pollution Prevention Team will be trained in implementing the various compliance activities specified in this SWPPP, and documentation of training activities is retained in SWPPP Appendix C. To promote storm water management awareness specific to this facility, refresher training will be provided annually.

Task specific training for all employees engaged in activities that have the potential to cause storm water pollution will be conducted when new employees are hired, and refresher training will be provided annually.

This Facility is currently listed as “Baseline” therefore training can be performed by a QISP or a qualified team member. The qualified team member/QISP will be responsible for providing information during training sessions and subsequently completing the training logs shown in Appendix C, which identifies the Facility-specific storm water topics covered as well as the names of Facility personnel who attended the meeting. Each team member will be trained in the specific role they are responsible for undertaking.

### **3.1.7 Quality Assurance and Record Keeping**

The following quality assurance and record keeping activities will be performed in accordance with the requirements in the General Permit (Section X.H.1.g):

- Develop and implement management procedures to ensure that appropriate staff implements all elements of the SWPPP, including the Monitoring Implementation Plan (SWPPP Section 5.0);
- Develop a method of tracking and recording the implementation of BMPs identified in the SWPPP; and

- Maintain the BMP implementation records, training records, and records related to any spills and clean-up related response activities for a minimum of five years as required in the General Permit (Section XXI.J.4).

BMPs will be implemented according to the schedule and procedures presented in SWPPP Section 4. BMPs will be implemented by properly trained team members as documented in Appendix C.

Visual observations will be performed as described in SWPPP Section 5.5. Potential pollutant sources and BMPs will be inspected during visual observations, and new BMPs will be implemented as needed. Records of visual observations of BMP implementation will be retained at the Facility.

Paper or electronic records of documents required by this SWPPP will be retained at the Facility for a minimum of five years from the date generated or date submitted, whichever is later, for the following items:

- Employee Training Records;
- BMP Implementation Records;
- Spill and Clean-up Related Records;
- Records of Monitoring Information;
  - The date, exact location, and time of sampling or measurement;
  - The date(s) analyses were performed;
  - The individual(s) that performed the analyses;
  - The analytical techniques or methods used; and
  - The results of such analyses;
- Level 1 ERA Reports;
- Level 2 ERA Action Plan;
- Level 2 ERA Technical Report; and
- Annual Reports.

### **3.2 ADVANCED BMPS**

Where the minimum BMPs described above will not adequately reduce or prevent pollutants in storm water discharges, the General Permit (Section X.H.2) requires dischargers, to the extent feasible, implement and maintain advanced BMPs necessary to reduce or prevent discharges of pollutants in its storm water discharge in a manner that reflects best industry practice considering technological availability and economic practicability and achievability.

#### **3.2.1 Exposure Minimization BMPs**

Exposure minimization BMPs can be installed on a Facility to prevent/reduce the contact of storm water with industrial activities and materials. These BMPs can include storm resistant shelters and canopies.



There are currently several Exposure Minimization BMPs installed at the Facility including: two covered chemical/raw material storage structures at the Shop and Maintenance Area and west of the Shop and Maintenance building, as well as sea vans / connex boxes onsite.

### **3.2.2 Storm Water Containment and Discharge Reduction BMPs**

Storm water containment and discharge reduction BMPs include BMPs that divert, reuse, contain, or reduce the volume of storm water runoff.

There are currently several Storm Water Containment or Discharge Reduction BMPs implemented at the Facility (as part of Post Construction BMPs) including:

1. Storm water containment located within the main employee parking area (within Drainage Area B) and paved access road (within Drainage Area A) where storm water is intercepted by surface drains in the road then flows to the earthen berm at Tank 861 or the southwest corner of the Shop and Maintenance Area and evaporates and infiltrates into the subsurface.

### **3.2.3 Treatment Control BMPs**

Treatment control BMPs include one or more mechanical, chemical, biological, physical, or any other treatment process technology and are sized to meet the treatment control design storm standard.

There is currently no treatment control BMPs implemented at the Facility.

### **3.2.4 Other Advanced BMPs**

Additional Advanced BMPs at the Facility include the following:

1. A street sweeper is utilized on an as-needed basis.

## **3.3 FACILITY BMP SUMMARY TABLE**

Table 3.2 summarizes the industrial activities, materials, pollutant sources, potential pollutants, and Facility-specific BMPs that are recommended or that are currently being implemented at the Facility to prevent discharge of pollutants in storm water runoff. These site-specific BMPs are to address possible storm water impacts from current Facility activities as discussed in Section 2.1.3 - Existing Conditions and Section 2.3 - Pollutant Source Assessment of this SWPPP. Descriptions of these Facility-specific BMPs are provided in the fact sheets (Appendix H - PDF copy only), with additional details provided in subsections of this SWPPP. Implementation and maintenance schedule of Facility-specific BMPs is described in Section 4. Plate 3 (Appendix A) shows the approximate locations of the existing BMPs at the Facility.

**Table 3.2. Facility-Specific BMP Summary Table**

Area / Equipment	Pollutant Sources	Potential Pollutants	BMPs Implemented or Recommended	CASQA BMP Fact Sheet Number	Required Equipment and Tools
Drainage Area A - Shop and Maintenance Area	Leaks from maintenance activities; Leaks from equipment storage; and Spills during materials handling.	Crude oil and related pollutants, surface materials containing TPH, VOCs, Title 22 metals, and PCBs; and Sediment.	Areas are routinely inspected for spills/leaks; Good Housekeeping; Proper loading/unloading procedures are followed; Secondary containment maintained; Stormwater accumulation contained; Conduct maintenance/storage under cover and on impermeable surfaces; Spill kit materials available; Remove obsolete inventory from Site; Add Berm and Training.	SC-10 SC-11 SC-20 SC-21 SC-22 SC-30 SC-31 SC-32 SC-40 SC-41 SC-44 TC-11	Wattles Spill Kit Secondary Containment
Drainage Area B - Bermed T-861 Area	Spilled/leaked tank contents; Leaks during loading/unloading; and Eroded permeable surfaces.	Crude oil and related pollutants, surface materials containing TPH, VOCs, Title 22 metals, and PCBs; and Sediment.	Proper material and waste loading/unloading procedures are followed; Area storage, equipment, and piping is routinely inspected for spills/leaks; Good Housekeeping; Spill prevention and cleanup measures in place; Secondary containment and surfaces maintained; Stormwater accumulation contained; and Training.	SC-33 SC-30 SC-40 SC-41 SC-44 TC-11 TC-12 TC-22	Wattles Spill Kit Secondary Containment

Drainage Areas A and B - Oil and Gas Processing Facility	Leaks from equipment; and Eroded permeable surfaces.	Crude oil and related pollutants, surface materials containing TPH, VOCs, Title 22 metals, and PCBs; and Sediment.	Area equipment and piping is routinely inspected for spills/leaks; Good Housekeeping; Secondary containment maintained; Spill kit materials and spill contractor available; Proper material and waste handling procedures are followed; Remove obsolete inventory from Site; Routine inspection/resurfacing as needed; Stormwater accumulation contained at T-861 Area and can infiltrate; and Training	SC-20 SC-21 SC-22 SC-32 SC-40 SC-41 SC-43 SC-44 TC-11 TC-12 TC-22	Wattles Spill Kit Secondary Containment
Drainage Area C - Chevron Pipeline Area	Leaks from equipment; and Eroded permeable surfaces.	Crude oil and related pollutants, surface materials containing TPH, VOCs, Title 22 metals, and PCBs; and Sediment.	Drainage and secondary containment maintained; and add berm and water bar or similar. Stormwater accumulation contained and can infiltrate.	SC-10 SC-11 SC-31 SC-32 SC-40 SC-44 TC-11 TC-12	Wattles, Spill Kit, and Secondary Containment
Drainage Area D - Oil and Gas Processing Facility	Leaks from equipment; and Eroded permeable surfaces.	Crude oil and related pollutants, surface materials containing TPH, VOCs, Title 22 metals, and PCBs; and Sediment.	Berm and drainage containment in place. Stormwater accumulation contained and can infiltrate.	SC-10 SC-11 SC-32 SC-34 SC-40 SC-44 TC-11 TC-12	Wattles, Spill Kit, and Secondary Containment

## 4.0 BMP IMPLEMENTATION

### 4.1 BMP IMPLEMENTATION SCHEDULE

The schedule for implementing all minimum BMPs is presented in Table 4.1. BMPs will be implemented as necessary to reduce or prevent transport of industrial pollutants in storm water runoff. Slight modifications to this schedule may be necessary to achieve this goal. Records of BMP implementation will be included in Appendix F.

**Table 4.1. BMP Implementation Schedule**

Activity / Location	BMP Description	Person Responsible for Implementing BMP	Date and Time of Implementation	Implementation Duration
Observe all outdoor areas associated with industrial activity; including storm water discharge locations, drainage areas, conveyance systems, waste handling/disposal areas, and perimeter areas impacted by off-facility materials or storm water run-on to determine housekeeping needs	Discharge points are inspected and cleaned; Containment areas are inspected and cleaned; and Any identified debris, waste, spills, tracked materials, or leaked materials shall be cleaned and disposed of properly.	Facility Team Member	Complete weekly visual inspections during rainy season; daily before during and after a rain event; and monthly during the dry season during daylight hours of scheduled facility operating hours and on days without precipitation	Life of project
Minimize or prevent material tracking	Use adequate containers/dumpsters to reduce leakage and track out when moved by licensed hauler; and Implement regular sweeping program to control tracking throughout facility.	Facility Team Member	Daily	Life of project
Minimize dust generated from industrial materials or activities	Minimize bulk material handling and storage; and Receive containerized material to minimize dust and clean up.	Facility Team Member	Daily	Life of project
Ensure that all facility areas impacted by rinse/wash waters	In the event outdoor areas need to be washed, all wash water will be contained,	Facility Team Member	As Needed	Life of project



Activity / Location	BMP Description	Person Responsible for Implementing BMP	Date and Time of Implementation	Implementation Duration
are cleaned as soon as possible	collected, and properly disposed of.			
Cover all stored industrial materials that can be readily mobilized by contact with storm water	Materials are stored inside or under areas with structural canopies/covers; and As needed, temporary covers/tarps are deployed.	Facility Team Member	As Needed	Life of project
Contain all stored non-solid industrial materials or wastes (e.g., particulates, powders, shredded paper, etc.) that can be transported or dispersed by the wind or contact with storm water	All non-solid industrial materials are stored in adequate, non-leaking, covered containers/tanks; and Facility conducts monthly inspections.	Facility Team Member	Daily	Life of project
Prevent disposal of any rinse/wash waters or industrial materials into the storm water conveyance system	In the event outdoor areas need to be washed, all wash water will be contained, collected, and properly disposed of.	Facility Team Member	As Needed	Life of project
Minimize storm water discharges from non-industrial areas (e.g., storm water flows from employee parking area) that contact industrial areas of the facility	Facility is graded and sloped to prevent non-industrial area discharges from contact with industrial areas	Facility Team Member	As Needed	Life of project
Minimize authorized NSWDs from non-industrial areas (e.g., potable water, fire hydrant testing, seawater infiltration, etc.) that contact industrial areas of the facility	Facility is graded and sloped to prevent non-industrial area discharges from contact with industrial areas.	Facility Team Member	As Needed	Life of project

## 4.2 BMP INSPECTION AND MAINTENANCE

The General Permit requires, at a minimum, monthly observations of BMPs, along with inspections during sampling events. Monthly observations will be conducted during daylight hours of scheduled facility operating hours and on days without precipitation. A BMP observation

checklist must be filled out for each inspection and maintained on-Facility with the SWPPP. The observation checklist includes the necessary information as discussed in Section 5.5. A blank observation checklist can be found in Appendix G, and completed checklists will be kept in an accompanying file/binder that is referenced in the SWPPP and readily accessible at the Facility.

BMPs will be maintained regularly to ensure proper and effective functionality. If necessary, corrective actions will be implemented within 72 hours of identified deficiencies and associated amendments to the SWPPP will be prepared and documented.

Specific guidance for maintenance, observation, and repair of advanced BMPs can be found in the BMP Factsheets in the General Permit (PDF copy).

## **5.0 MONITORING IMPLEMENTATION PLAN**

### **5.1 PURPOSE**

This Monitoring Implementation Plan was developed to address the following objectives:

- Identify the monitoring team;
- Describe weather and rain event tracking procedures;
- Describe discharge locations, visual observations procedures;
- Describe visual observation response procedures;
- Describe sample collection and handling procedures;
- Describe field instrumentation calibration instructions and intervals;
- Provide an example Chain of Custody (COC) form to be used when handling and shipping water quality samples to the laboratory;
- Ensure that storm water discharges are in compliance with the discharge prohibitions, effluent limitations and receiving water limitations specified;
- Ensure that practices at the facility to reduce or prevent pollutants in storm water discharges and authorized non-storm discharges are evaluated and revised to meet changing conditions;
- Aid in the implementation and revision of the SWPPP; and
- Measure the effectiveness of the BMPs.

### **5.2 WEATHER AND RAIN EVENT TRACKING**

Storm water sampling and visual observations will be conducted during Qualified Storm Events (QSEs). A QSE is defined as any precipitation event that produces a discharge for at least one drainage area and is preceded by 48 hours with no discharge from any drainage area. Weather and precipitation forecasts will be tracked to identify potential QSEs.

When targeting a QSE for storm water sampling, the appropriate team member will weekly consult the National Oceanographic and Atmospheric Administration (NOAA) for weather forecasts. These forecasts can be obtained at <http://www.srh.noaa.gov/>. If weekly forecasts indicate potential for significant precipitation, the weather forecast will be closely monitored during the 48 hours preceding the event. Weather reports with precipitation data should be printed and maintained with the SWPPP to document precipitation totals and antecedent conditions.

### **5.3 MONITORING LOCATIONS**

Monitoring locations are shown on Plate 3 - Site Plan in Appendix A. Monitoring locations are described in Section 5.6.

Whenever changes in facility operations might affect the appropriateness of sampling locations, the sampling locations will be revised accordingly. All such revisions will be implemented as soon as feasible and the SWPPP amended.

#### **5.4 SAMPLE COLLECTION AND VISUAL OBSERVATION EXCEPTIONS**

Safety practices for sample collection will be in accordance with industry standards. Sampling personnel should review safety requirements at the Facility prior to initiating inspection and sampling activities.

The visual observations or the collection of storm water samples is not required under the following conditions:

- During dangerous weather conditions such as flooding and electrical storms.
- Outside of scheduled Facility business hours.

Scheduled Facility business hours are presented in Section 2.2.

If monitoring (visual observations or sample collection) of the Facility is unsafe because of the dangerous conditions noted above, then the appropriate team member will document the conditions for why an exception to performing the monitoring was necessary. The exception documentation will be filed in the on the Facility SWPPP binder.

#### **5.5 VISUAL OBSERVATION PROCEDURES**

Visual monitoring includes observations of drainage areas, BMPs, and discharge locations.

- Observations of BMPs are required to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended.
- Observations of the drainage areas are required to identify any spills, leaks, uncontrolled pollutant sources, and non-storm water discharges.
- Observations of discharge locations are required to identify the presence of visible pollutants in storm water discharged from the facility.

Visual observations will be performed at least once every calendar month during dry conditions. Visual observations will also be performed during storm water sampling events when discharge is occurring.

##### **5.5.1 Monthly Visual Observations**

Monthly visual observations are necessary to document the presence of and to identify the source of any pollutants and non-storm water flows. These should consist of observations of the outdoor facility operations, BMPs, and NSWSD observations.



In the event that monthly visual observations are not performed, an explanation must be provided in the annual report.

#### 5.5.1.1 Outdoor Facility Operations Observations

Observe potential sources of industrial pollutants including industrial equipment and storage areas, and outdoor industrial activities, and record observations of the following:

- Spills or leaks; and
- Uncontrolled pollutant sources.

#### 5.5.1.2 BMP Observations

Observe BMPs to identify and record:

- BMPs that are properly implemented;
- BMPs that need maintenance to operate effectively;
- BMPs that have failed; or
- BMPs that could fail to operate as intended.

#### 5.5.1.3 Non-Storm Water Discharge Observations

Observe each drainage area for the presence of or indications of prior unauthorized and authorized non-storm water discharges. Record:

- Presence or evidence of any non-storm water discharge (authorized or unauthorized);
- Pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.); and
- Source of discharge.

For authorized non-storm water discharges, also document whether BMPs are in place and are functioning to prevent contact with materials or equipment that could introduce pollutants.

### 5.5.2 Sampling Event Visual Observations

Sampling event visual observations evaluate the general appearance of the storm water as an indicator of potential pollutants. These observations will be conducted at the same time sampling occurs at the discharge locations identified in Section 5.6.2. At each discharge location where a sample is obtained, record observations of:

- Floating and suspended materials;
- Oil and grease;
- Discoloration;
- Turbidity;
- Odors; and
- Trash.

When pollutants are observed in the discharged storm water, follow-up observations of the drainage area will be conducted to identify the probable source of the pollutants.

In the event that a discharge location is not visually observed during the sampling event, the location of the discharge and reasoning for not obtaining observations must be recorded.

### 5.5.3 Visual Monitoring Procedures

Visual monitoring will be conducted by trained team members. The name(s) and contact number(s) of the Facility visual monitoring personnel are listed below and their training qualifications are provided in Appendix C. Persons not named below that have received the site-specific SWPPP training and experience may also conduct visual monitoring.

	<b>Name:</b>	<b>Contact Telephone Number:</b>
Assigned Inspector (Padre):	James T. Tolar	805-701-9304
Alternate Inspector (Padre):	Eva E. von Thury	805-450-9381
	David Schneider	805-881-2619
	Tristan Hansberry	951-331-0107
	Lauren Alamillo	805-212-2220
	Will Wyatt	805-861-8207
	Chris Prevost	805-748-1214
	Jeff Damron	805-218-0108

Visual observations will be documented on the Visual Observation Reports (see Appendix G). Visual observations will be supplemented with a Facility-specific BMP inspection checklist. Photographs used to document observations will be referenced on the Visual Observation Log and maintained with the Monitoring Records.

The completed logs and checklists will be kept in the on the Facility SWPPP binder.

### 5.5.4 Visual Monitoring Follow-Up and Reporting

Correction of deficiencies identified by the observations, including required repairs or maintenance of BMPs, will be initiated and completed as soon as possible. Response actions will include the following:

- Report observations to the Pollution Prevention Team Leader or designated individual;
- Identify and implement appropriate response actions;
- Determine if SWPPP update is needed;
- Verify completion of response actions; and
- Document response actions.

If identified deficiencies require design changes, including additional BMPs, the implementation of changes will be completed as soon as possible, and the SWPPP will be amended to reflect the changes.

BMP deficiencies identified in Facility observation reports and correction of deficiencies will be tracked on the Observation Reports and will be retained in an accompanying file/binder that is referenced in the SWPPP and readily accessible at the Facility.

Results of visual monitoring must be summarized and reported in the Annual Report.

### 5.5.5 Visual Monitoring Locations

The observation types identified in Sections 5.5.1 and 5.5.2 will be conducted at the locations identified in this section.

The Facility storm water drainage areas and discharge locations are shown on the Facility Map in Appendix A and are identified in Table 5.1 and Table 5.2 (Section 5.6.2), respectively.

**Table 5.1. Facility Drainage Areas**

Location Identifier	Drainage Area / Description
Drainage Area A	North area of Facility that includes the Shop and Maintenance. Mixed employee parking and access road, office buildings, and storage containers along north side of Facility. Surface runoff is west-southwesterly and is retained behind an earthen berm and ponds.
Drainage Area B	Central area of Facility that includes Tank 861 and the Oil and Gas Processing Facility. Employee parking with infiltration drainage system BMP. Overflow and areas without infiltration drain flows generally in southwesterly direction and ponds in the T-861 Bermed Area. Discharge is via valve and pump to concrete-lined channel on west side of Dump Road.
Drainage Area C	Southwest area of Facility. Storm water is contained within bermed area. Pondered water discharge is via valve and gravity flow to drain inlet and concrete-lined channel on west side of Dump Road.
Drainage Area D	Southeast corner of Facility. Surface flow is toward the southeast corner and is retained onsite. Storm water flows to vegetated bermed area.

## 5.6 SAMPLING AND ANALYSIS PROCEDURES

This section describes the methods and procedures that will be followed for storm water sampling and analysis. It contains information for sampling schedule, sampling locations, monitoring preparation, analytical constituents, sample collection, sample analysis, and data evaluation and reporting.

### 5.6.1 Sampling Schedule

Storm water samples at one or more of the three retained storm water sampling locations (when accumulation of storm water at the Facility is observed to occur and a subsequent discharge is planned) will be collected and analyzed from two QSEs within the first half of each reporting year (July 1 to December 31), and two QSEs within the second half of each reporting year (January 1 to June 30).

A QSE is a precipitation event that:

- Produces a discharge for at least one drainage area; and
- Is preceded by 48 hours with no discharge from any drainage area.

### 5.6.2 Sampling Locations

Storm water sampling locations include areas where storm water ponds at the Facility and can potentially be discharged from the Facility. A total of three discharge locations at the Facility, each with a corresponding retained water sample location have been identified and field verified. The retained water sampling locations and discharge locations are shown on Plates 2 and 3 - Site Plan in Appendix A. Additionally, the retained storm water sample locations are described in Table 5.2.

**Table 5.2. Storm Water Sample Locations**

Sample Location ID (Plate 3 - Appendix A)	Sample Location Description	Sample Location Latitude and Longitude (Decimal Degrees)
Drainage Area A	Sample from southwestern corner of Drainage Area A. Sample from ponded water.	34.388944° / -119.508327°
Drainage Area B	Sample from southwestern corner of Drainage Area B. Sample from ponded water.	34.387919° / -119.508330°
Drainage Area C	Sample from northwestern corner of Drainage Area C. Sample from ponded water.	34.387669° / -119.508463°

### 5.6.3 Monitoring Preparation

Samples on the Facility will be collected by the following sampling personnel:

**Name(s):** Padre Staff including the Facility Team Members

**Telephone Number(s):** See Section 5.5.3

An adequate stock of monitoring supplies and equipment for sampling will be available at the Facility at the office prior to a sampling event. Monitoring supplies and equipment will be stored in a cool temperature environment that will not come into contact with rain or direct sunlight.



Sampling personnel will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the facility will include, but are not limited to: clean powder-free nitrile gloves; sample collection equipment; coolers; appropriate number and volume of sample containers; identification labels; re-sealable storage bags; paper towels; personal rain gear; ice; and *Storm Water Sampling Log Sheets* and COC forms, which are provided in Appendix G.

#### 5.6.4 Analytical Constituents

Table 5.3 lists the constituents identified for sampling and analysis and the reason for including the constituent.

**Table 5.3. Analytical Constituents**

Constituent	Reason
pH	Basic required constituent
Oil and grease	Basic required constituent
Total Suspended Solids (TSS)	Basic required constituent
TPH	Impacted surface materials
BTEX	Impacted surface materials
PCBs	Impacted surface materials
Title 22 Metals	Impacted surface materials

#### 5.6.5 Sample Collection

Prior to releasing accumulated storm water from Drainage Areas A, B and / or C, a water sample will be collected and chemically analyzed for the discharge parameters listed in Table 5.3 - Analytical Constituents. Retained storm water samples will be collected using the following protocols:

- Samples will be representative of storm water associated with the Facility.
- Samples will be collected utilizing a peristaltic pump with new, clean polyethylene tubing or new, clean disposable bailer. The water samples will be collected from a depth beneath the water surface half the total depth of the water column. Water retrieved from the peristaltic pump or disposable bailer will be decanted into lab-provided sample container. Sample bottles for laboratory analyses will be filled to capacity, and efforts made not to overfill.
- Immediately following sample collection, sample bottles for laboratory analytical testing will be capped, labeled, and documented on a chain-of-custody (COC) form provided by the analytical laboratory, placed and packed in an ice-chilled cooler to prevent sample bottle breakage and maintain sample temperature at or near 4° Celsius (39° Fahrenheit), and delivered within 24 hours to a California state-certified laboratory.

To maintain sample integrity and prevent cross-contamination, sample collection personnel will follow the protocols below.

- Collect samples (for laboratory analysis) only in analytical laboratory-provided sample containers;
- Wear clean, powder-free nitrile gloves when collecting samples;
- Change gloves whenever something not known to be clean has been touched;
- Change gloves between Sample locations;
- Decontaminate all equipment (e.g. bucket, tubing) prior to sample collection using a trisodium phosphate water wash, distilled water rinse, and final rinse with distilled water. (Dispose of wash and rinse water appropriately, i.e., do not discharge to storm drain or receiving water). Do not decontaminate laboratory provided sample containers;
- Do not smoke during sample collection;
- Do not collect samples near a running vehicle;
- Do not park vehicles in the immediate sample collection area (even non-running vehicles);
- Do not eat or drink during sample collection; and
- Do not breathe, sneeze, or cough in the direction of an open sample container.

Samples will be collected at the designated sampling locations shown on Plates 2 and 3 and listed in the preceding sections. Samples will be collected, maintained, and shipped in accordance with the requirements in the following sections.

Note that depending upon the specific analytical test, some containers may contain preservatives. These containers should not be dipped into the stream but filled indirectly from the collection container.

#### **5.6.6 Sample Handling**

Field pH measurements must be conducted immediately. Do not store pH samples for later measurement.

Samples for laboratory analysis must be handled as follows. Immediately following sample collection:

- Cap sample containers;
- Complete sample container labels.
- Seal containers in a re-sealable storage bag;
- Place sample containers into an ice-chilled cooler;

- Document sample information on the *Sampling Field Log Sheet*; and
- Complete the Chain-of-Custody (COC).

All samples for laboratory analysis must be maintained between 0-6 degrees Celsius during delivery to the laboratory. Samples must be kept on ice, or refrigerated, from sample collection through delivery to the laboratory. Place samples to be shipped inside coolers with ice. Make sure the sample bottles are well packaged to prevent breakage and secure cooler lids with packaging tape.

Ship samples that will be laboratory analyzed to the analytical laboratory right away. Hold times are measured from the time the sample is collected to the time the sample is analyzed. The General Permit requires that samples be received by the analytical laboratory within 48 hours of the physical sampling (unless required sooner by the analytical laboratory).

### 5.6.7 Sample Documentation Procedures

All original data documented on sample bottle identification labels, *Sampling Log*, and COCs will be recorded using waterproof ink. If an error is made on a document, sampling personnel will make corrections by lining through the error and entering the correct information. The erroneous information will not be obliterated. All corrections will be initialed and dated.

Sample documentation procedures include the following:

- Sample Bottle Identification Labels: Sampling personnel will attach an identification label to each sample bottle. At a minimum, the following information will be recorded on the label, as appropriate:
  - Unique sample identification number and location.
  - Collection date/time
  - Analysis constituent
  - Any sample preservative
- Field Log Sheets: Sampling personnel will complete the *Effluent Sampling Field Log Sheet* and *Receiving Water Sampling Field Log Sheet* for each sampling event, as appropriate.
- Chain of Custody: Sampling personnel will complete the COC for each sampling event for which samples are collected for laboratory analysis. The sampler will sign the COC when the sample(s) is turned over to the testing laboratory or courier. COC procedures will be strictly adhered to for quality assurance/quality control purposes.

### 5.6.8 Sample Analysis

Storm water samples will be collected and preserved in accordance with the methods identified in Table 5.4 - Sample Collection, Preservation and Analysis for Water Quality Samples below. Only team members properly trained in water quality sampling will collect samples.

**Table 5.4. Sample Collection, Preservation and Analysis for Water Quality Samples\***

Constituent	Analytical Method	Minimum Sample Volume	Sample Containers	Sample Preservation	Laboratory Reporting Limit	Maximum Holding Time
pH	Portable field meter	NA	NA	NA	0.1	15 minutes
Oil and Grease	EPA 1664A	1 L	1-Liter Amber	HCl	≤ 5 mg/L	28 days
Total Suspended Solids	SM 2540-D	1 L	1-Liter Amber	None	≤ 10 mg/L	1 week
TPH Gasoline and BTEX	EPA 8260B	120 ml	(3) 40 ml VOA	HCL or none	0.5 - 50 µg/L	2 weeks
TPH Diesel and TPH Motor Oil	EPA 8015M	1 L	1-Liter Amber	None	100 µg/L	2 weeks
Title 22 Metals	EPA 200.7	125 ml	125 ml Plastic	Nitric Acid	varies	6 months (Hg: 28 days)
PCBs	EPA 8082	1 L	1-Liter Plastic	None	0.2 µg/L	1 week

\*Always verify sample container types, volume, and preservatives required with analytical laboratory prior to sampling events.



All samples will be analyzed by an analytical laboratory certified in the State of California to perform the required analyses. All original data documented on sample bottle identification labels, COC forms, and Inspection Checklists/Notes will be recorded using waterproof ink.

The Facility is not subject to Subchapter N Effluent Limitation Guidelines (ELGs) mandating pH analysis. Grab samples will be collected and analyzed for pH using portable field meters. The pH analysis will be performed as soon as practicable, but no later than 15 minutes after sample collection.

### **5.6.9 Data Evaluation and Discharge**

The designated member of the Pollution Prevention Team will complete an evaluation of the water quality sample analytical results. The storm water sample analytical results will be compared to the storm water discharge criteria presented in Table 5.5 - Storm water Discharge Criteria - Pollutants and Parameters and Table 5.6 - Storm Water Discharge Criteria - Title 22 Metals. Assure that in data evaluation for discharge that the data verification procedures are followed as described in Section 5.8.4 below.

If the sample results are confirmed to meet discharge criteria, storm water may be released outside of the Facility at the discharge locations identified on Plates 2 and 3. Discharged water will flow to the drain inlet located on the east side of Dump Road that flows to the east-west concrete-lined channel located west of Dump Road, a drainage that receives run-on from non-Facility areas. From the concrete-lined channel, storm water enters into an onsite HDPE pipe, outlets from the Subject Property into a common drainage located along the railroad tracks, and ultimately flows to the Pacific Ocean.

If the storm water sample results do not meet allowable discharge requirements, storm water may not be discharged offsite. Rather, the water may be allowed to infiltrate into the soil, undergo treatment, or be transported off-site via vac-truck for disposal / recycling. Spill control supplies, equipment, and procedures are in place to be deployed as needed. Sample collection will be conducted during scheduled facility operating hours and when sampling conditions are safe.

**Table 5.5. Storm Water Discharge Criteria - Pollutants and Parameters**

Pollutant	PCBs (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	TPHg (µg/L)	TPHd (µg/L)	TPHo (µg/L)	Oil and Grease (mg/L)	pH (pH Units)	TSS (mg/L)
Discharge Criteria	0.5 <sup>3</sup>	1.0 <sup>2</sup>	150 <sup>2</sup>	700 <sup>2</sup>	1,750 <sup>2</sup>	100 <sup>2</sup>	100 <sup>2</sup>	100 <sup>2</sup>	25 <sup>1</sup> / 15 <sup>1</sup>	6-9 <sup>1</sup>	400 <sup>1</sup> / 100 <sup>1</sup>

Notes:

µg/L = micrograms per liter; mg/L = milligrams per liter

PCBs = Polychlorinated Biphenyls

TPH = Total Petroleum Hydrocarbons identified as gasoline (TPHg); TPH identified as diesel fuel (TPHd); TPH identified as motor oil (TPHo)

TSS = Total Suspended Solids

-- - Not Applicable or Not Established

1 = Numeric Action Level (NAL) - Instantaneous Maximum NAL / Annual NAL as per Table 2 of the Industrial General Permit ORDER NPDES NO. CAS000001, effective July 1, 2015

2 = NPDES Attachment E - Screening level that applies to all other receiving waters

3 = NPDES Attachment E – Minimum Level

**Table 5.6. Storm Water Discharge Criteria - Title 22 Metals**

Pollutant	Discharge Criteria (µg/L)
Arsenic (As)	150 <sup>1</sup>
Cadmium (Cd)	5.3 <sup>1</sup>
Chromium III (Cr3+)	180 <sup>2</sup>
Chromium VI (Cr6+)	11 <sup>2</sup>
Copper (Cu)	33.2 <sup>1</sup>
Lead (Pb)	262 <sup>1</sup>
Mercury (Hg)	1.4 <sup>1</sup>
Zinc (Zn)	260 <sup>1</sup>

Notes:

1 = Numeric Action Level (NAL) - Annual NAL as per Table 2 of the Industrial General Permit ORDER NPDES NO. CAS000001, effective July 1, 2015

2 = NPDES Attachment E - Screening level that applies to all other receiving waters

µg/L = micrograms per liter

### 5.6.10 Data Reporting

All sampling and analytical results for all individual samples will be submitted via SMARTS within 30 days of obtaining all results for each sampling event.

The method detection limit (MDL) will be provided when an analytical result from samples taken is reported by the laboratory as a "non-detect" or less than the method detection limit. A value of zero will not be reported.

Analytical results that are reported by the laboratory as below the minimum level (often referred to as the reporting limit), but above the MDL will be provided.

Reported analytical results will be averaged automatically by SMARTS at the end of the reporting year. For any calculations required by the General Permit a value of zero shall be used for all effluent sampling analytical results that are reported by the laboratory as "non-detect" or less than the MDL.

## 5.7 TRAINING OF SAMPLING PERSONNEL

Sampling personnel will be trained to collect, maintain, and ship samples in accordance with the General Permit and this SWPPP. Training records of designated sampling personnel are provided in Appendix C.

The storm water samplers have the following storm water sampling experience:

Name	Experience
James Tolar Chris Prevost Eva E. von Thury David Schneider Tristan Hansberry Lauren Alamillo Will Wyatt	One year or more of experience conducting inspections and storm water sampling at similar facilities in accordance with Industrial and Construction General Permit requirements

## 5.8 QUALITY ASSURANCE AND QUALITY CONTROL

An effective Quality Assurance and Quality Control (QA/QC) plan will be implemented as part of the IMP to ensure that analytical data can be used with confidence. QA/QC procedures to be initiated include the following:

- Field logs;
- Clean sampling techniques;
- COCs; and
- Data verification.

Each of these procedures is discussed in more detail in the following sections.

### 5.8.1 Field Logs

The purpose of field logs is to record sampling information and field observations during monitoring that may explain any uncharacteristic analytical results. Sampling information to be included in the field log includes the date and time of water quality sample collection, sampling personnel, sample container identification numbers, and types of samples that were collected. Field observations should be noted in the field log for any abnormalities at the sampling location (color, odor, BMPs, etc.). Field measurements for pH should also be recorded in the field log. Observation logs and sampling field log sheets are included in Appendix G.

### 5.8.2 Clean Sampling Techniques

Clean sampling techniques involve the use of certified clean containers for sample collection and clean powder-free nitrile gloves during sample collection and handling. As discussed in Section 5.6.5 and 5.6.6, adoption of a clean sampling approach will minimize the chance of field contamination and questionable data results.



### 5.8.3 Chain-of-Custody

The sample COC is an important documentation step that tracks samples from collection through analysis to ensure the validity of the sample. Sample COC procedures include the following:

- Proper labeling of samples;
- Use of COC forms for all samples; and
- Prompt sample delivery to the analytical laboratory.

Analytical laboratories usually provide COC forms to be filled out for sample containers. An example COC is included in Appendix G.

### 5.8.4 Data Verification

After results are received from the analytical laboratory, the discharger will verify the data to ensure that it is complete, accurate, and the appropriate QA/QC requirements were met. Data must be verified as soon as the data reports are received. Data verification will include:

- Check the COC and laboratory reports. *Make sure all requested analyses were performed and all samples are accounted for in the reports.*
- Check laboratory reports to make sure hold times were met and that the reporting levels meet or are lower than the reporting level industry standards.
- Check data for outlier values and follow up with the laboratory. *Occasionally typographical errors, unit reporting errors, or incomplete results are reported and should be easily detected. These errors need to be identified, clarified, and corrected quickly by the laboratory. Especially note data that is an order of magnitude or more different than similar locations or is inconsistent with previous data from the same location.*
- Check laboratory QA/QC results. *EPA establishes QA/QC checks and acceptable criteria for laboratory analyses. These data are typically reported along with the sample results. Evaluate the reported QA/QC data to check for contamination (method, field, and equipment blanks), precision (laboratory matrix spike duplicates), and accuracy (matrix spikes and laboratory control samples). When QA/QC checks are outside acceptable ranges, the laboratory must flag the data, and usually provides an explanation of the potential impact to the sample results.*
- Check the data set for outlier values and accordingly, confirm results and re-analyze samples where appropriate. *Sample re-analysis should only be undertaken when it appears that some part of the QA/QC resulted in a value out of the accepted range. Sample results may not be discounted unless the analytical laboratory identifies the required QA/QC criteria were not met and confirms this in writing.*

Field data including pH measurements and visual observations must be verified as soon as the Visual Observation and Sampling Logs are received, typically at the end of the monitoring event. Field data verification will include:

- Check logs to make sure all required measurements were completed and appropriately documented;
- Check reported values that appear out of the typical range or inconsistent; Follow-up immediately to identify potential reporting or equipment problems, if appropriate, recalibrate equipment after sampling;
- Verify equipment calibrations;
- Review observations noted on the logs; and
- Review notations of any errors and actions taken to correct the equipment or recording errors.

## **5.9 RECORDS RETENTION**

Records of storm water monitoring information and copies of reports (including Annual Reports) must be retained for a period of at least five years from date of submittal or longer if required by the Regional Water Board.

Results of visual observations, field measurements, and laboratory analyses must be kept in the SWPPP along with COCs, and other documentation related to the monitoring.

Records to be retained include:

- The date, place, and time of inspections, sampling, visual observations, and/or measurements, including precipitation;
- The individual(s) who performed the inspections, sampling, visual observation, and/or field measurements;
- The date and approximate time of field measurements and laboratory analyses;
- The individual(s) who performed the laboratory analyses;
- A summary of all analytical results, the method detection limits and reporting limits, and the analytical techniques or methods used;
- Weather reports;
- QA/QC records and results;
- Calibration records;
- Visual observation and sample collection exception records; and
- The records of any corrective actions and follow-up activities that resulted from analytical results, visual observations, or inspections.

---

## 6.0 REFERENCES

ALTA Environmental, 2012, Spill Prevention, Control and Countermeasure (SPCC) Plan, Chevron, LLC, 1051 South Pacific Avenue, Carpinteria, CA, June 8, 2012.

CASQA 2012, Stormwater BMP Handbook Portal: Industrial Commercial, August 2014, [www.casqa.org](http://www.casqa.org)

CASQA 2012, Stormwater BMP Handbook Portal: Construction, July 2012, [www.casqa.org](http://www.casqa.org)

CUPA, Hazardous Material Business Plan, Chevron, LLC, 1051 S. Pacific Avenue, Carpinteria, CA, February 26, 2018

State Water Resources Control Board, California (2014). Order 2014-0057-DWQ, NPDES General Permit No. CAS000001: National Pollutant Discharges Elimination System (NPDES) California General Permit for Storm Water Discharge Associated with Industrial Activities. Available on-line at: [http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/industrial.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.shtml).

## **APPENDIX A FACILITY MAPS**





**LEGEND:**

- Approximate Limits of Chevron-Owned Land (Subject Property)
- Approximate Limits of the Facility

**MAP EXTENT:**



Source: Esri Online Topo Basemap, County of Santa Barbara  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.

**padre**  
associates, inc.  
ENGINEERS, GEOLOGISTS &  
ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CHEVRON CARPINTERIA OIL AND GAS PROCESSING FACILITY PROPERTIES SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 2301-1482	DATE: May 2024

## SITE LOCATION MAP

PLATE  
**1**





**LEGEND:**

<ul style="list-style-type: none"> <li>Retained Storm Water Sample Location</li> <li>Storm Water Discharge Location</li> <li>Surface Flow Direction</li> <li>Asphalt</li> <li>Building</li> <li>Concrete</li> </ul>	<ul style="list-style-type: none"> <li>Approximate Limits of Chevron-Owned Land (Subject Property)</li> <li>Limits of Industrial Storm Water Pollution Prevention Plan (ISWPPP)</li> <li>Assessor Parcel Boundary</li> <li>5-ft Major Contour</li> <li>1-ft Minor Contour</li> </ul>	<ul style="list-style-type: none"> <li>Drainage Area A</li> <li>Drainage Area B</li> <li>Drainage Area C</li> <li>Drainage Area D</li> </ul> <p>All Other Areas Out of Scope for Industrial General Permit</p>
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associates, inc.  
ENGINEERS, GEOLOGISTS &  
ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CHEVRON CARPINTERIA  
OIL AND GAS PROCESSING FACILITY PROPERTIES  
SANTA BARBARA COUNTY, CA

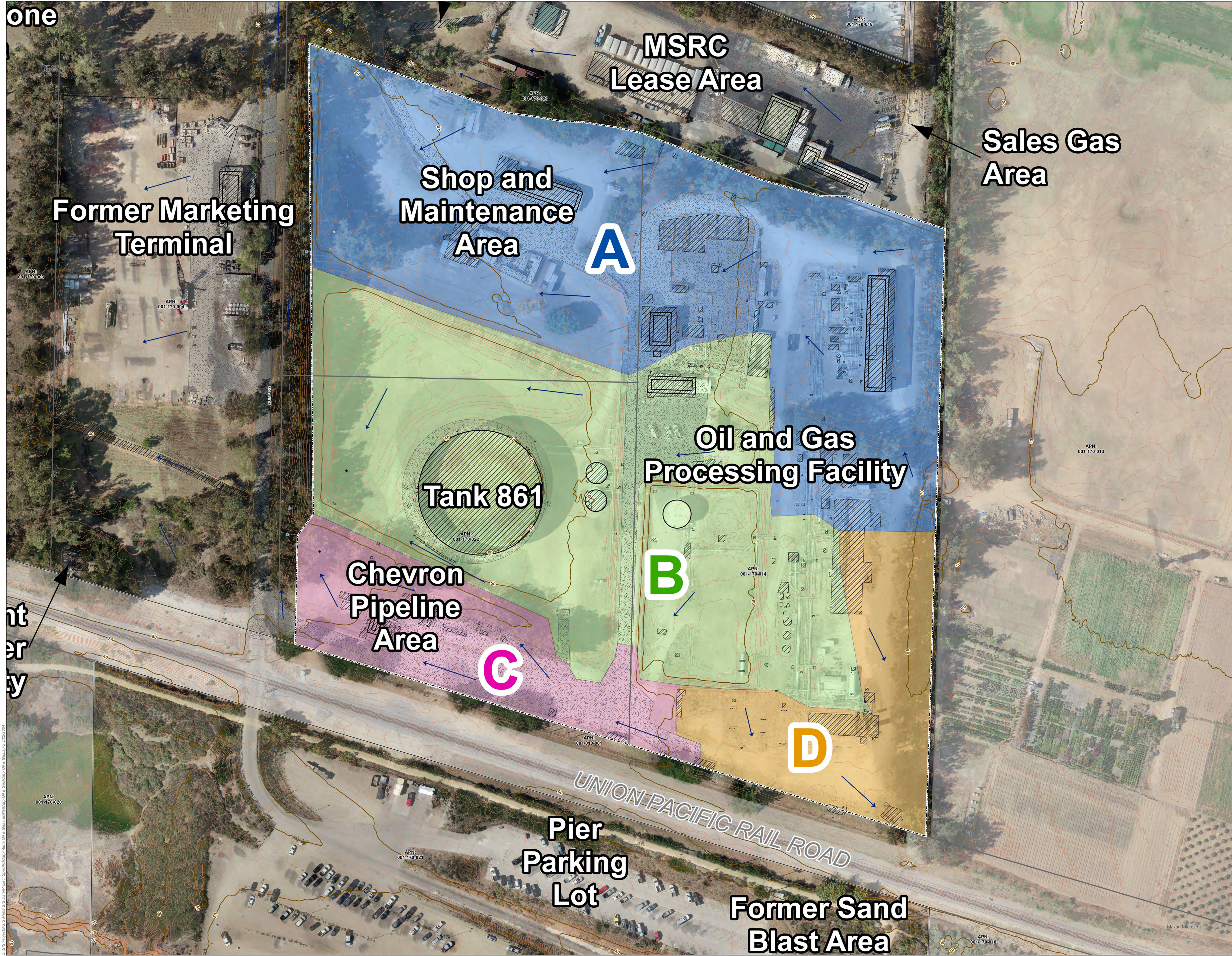
PROJECT NUMBER: 2301-1482

DATE: May 2024

**SITE VICINITY MAP**

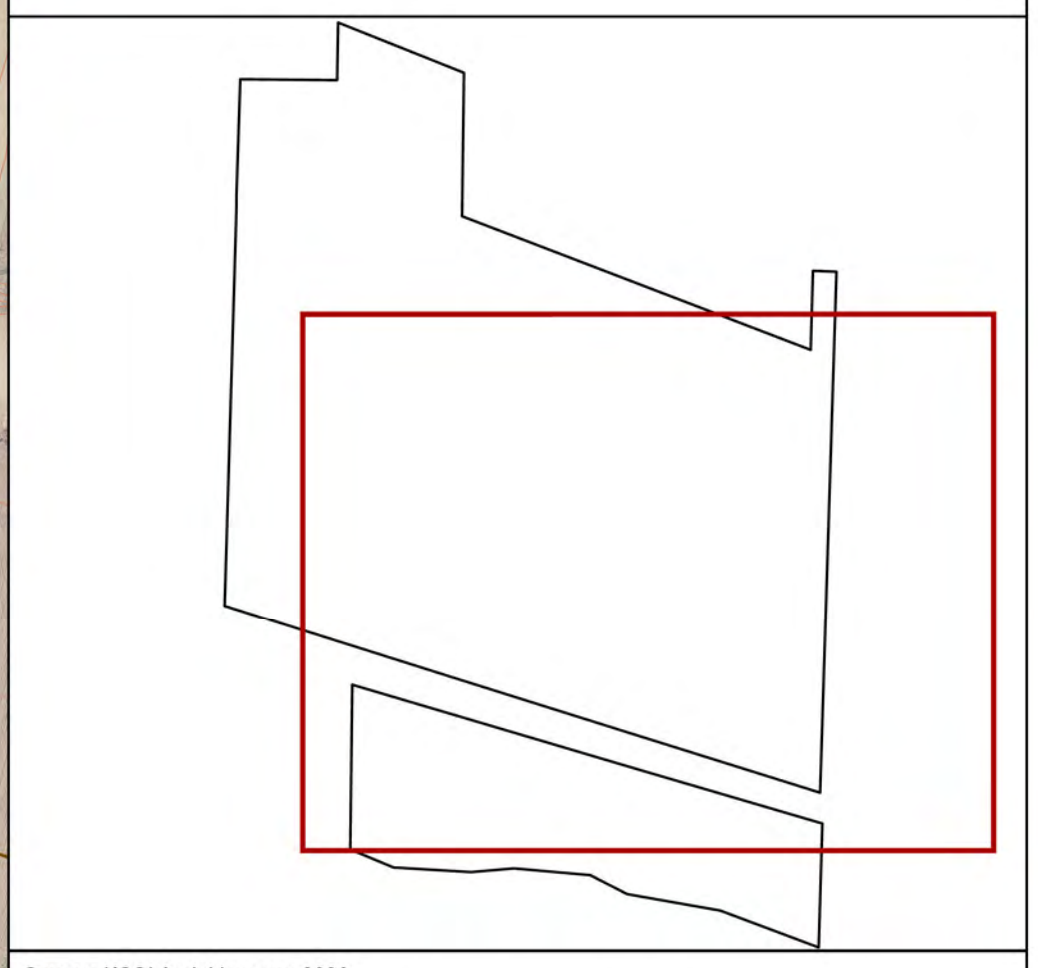
PLATE  
2





**LEGEND:**

- Retained Storm Water Sample Location
- Storm Water Discharge Location
- Surface Flow Direction
- Asphalt
- Building
- Concrete
- Approximate Limits of Chevron-Owned Land (Subject Property)
- Assessor Parcel Boundary
- Limits of Industrial Storm Water Pollution Prevention Plan (ISWPPP)
- Drainage Area A
- Drainage Area B
- Drainage Area C
- Drainage Area D
- All Other Areas Out of Scope for Industrial General Permit
- 5-ft Major Contour
- 1-ft Minor Contour



Source: KCSI Aerial Imagery 2020  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only. Not for navigational purposes.

**SURFACE FLOW DIRECTION MAP**

CARPINTERIA OIL & GAS FACILITY

SANTA BARBARA, CALIFORNIA

Scale: 1:720

0 60 120 FT

PROJECT NO.: 2301-1482  
DATE: MAY 2024

PLATE 3

one

Former Marketing Terminal

MSRC Lease Area

Shop and Maintenance Area

Tank 861

Chevron Pipeline Area

Pier Parking Lot

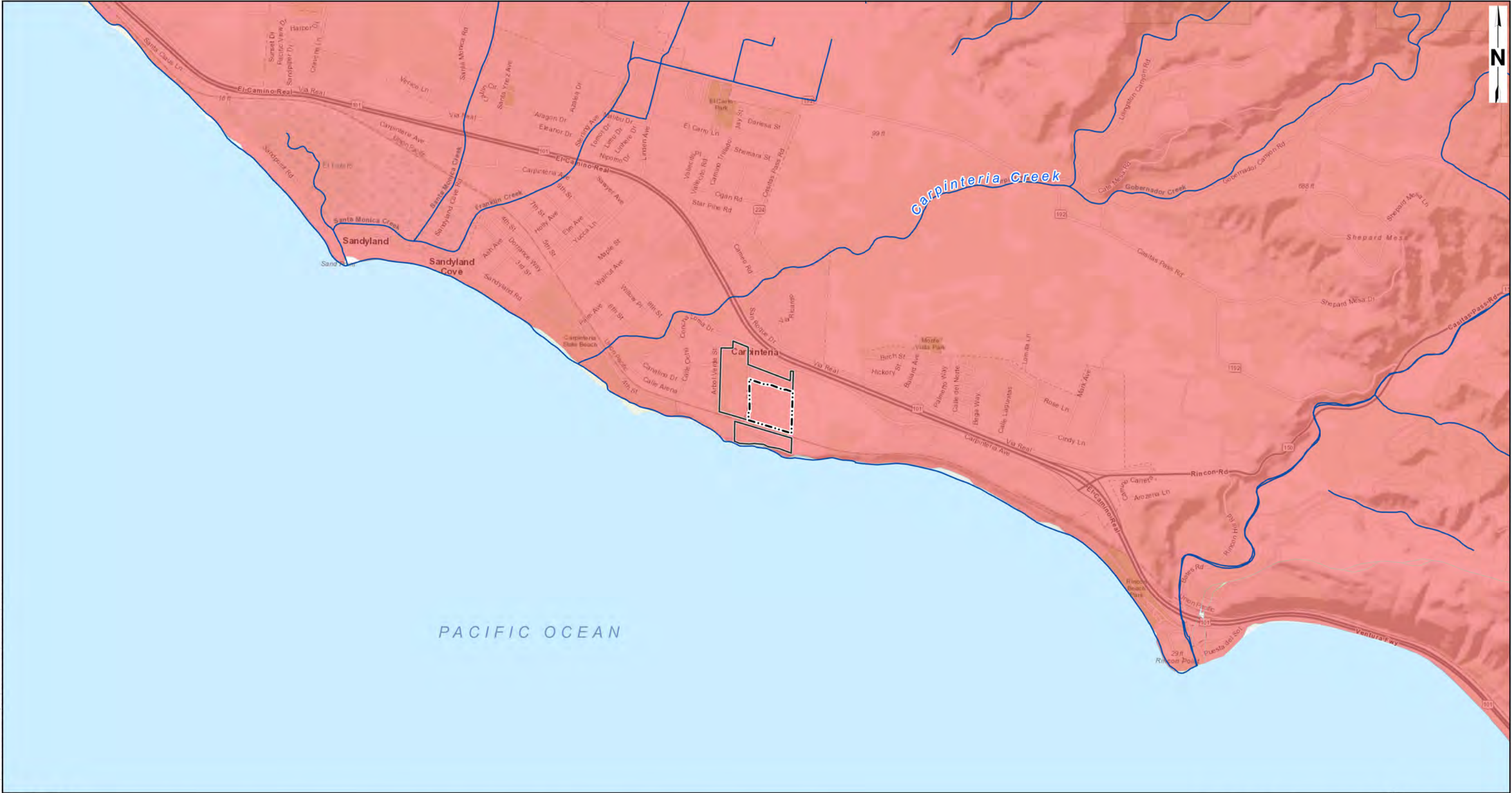
Former Sand Blast Area

Sales Gas Area

Oil and Gas Processing Facility

UNION PACIFIC RAIL ROAD



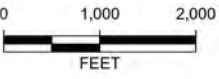


**LEGEND:**

Approximate Limits of Chevron-Owned Land
  Approximate Limits of the Facility
  Receiving Water Risk
  Channels

**MAP EXTENT:**

SANTA BARBARA COUNTY



Source: ESRI Online Topo Basemap  
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
 Notes: This map was created for informational and display purposes only.



PROJECT NAME: CHEVRON CARPINTERIA OIL AND GAS PROCESSING FACILITY PROPERTIES SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 2301-1482	DATE: May 2024

303(D) MAP

PLATE  
4



## **APPENDIX B**

### **PERMIT REGISTRATION DOCUMENTS**

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Permit Registration Documents included in this Appendix

Y / N	Permit Registration Document
Y	Notice of Intent
Y	Certification
Y	Copy of Annual Fee Receipt
Y	Facility Map(s), see Appendix A

## **APPENDIX C TRAINING REPORTING FORM**

**Trained Team Member Log**  
**Storm water Management Training Log and Documentation**

Facility Name: Carpinteria Oil and Gas Plant (5675 Carpinteria Avenue, Carpinteria, California)

WDID #: 3 42I027549

Storm water Management Topic: (check as appropriate)

- |                                                                 |                                                                 |
|-----------------------------------------------------------------|-----------------------------------------------------------------|
| <input type="checkbox"/> Good Housekeeping                      | <input type="checkbox"/> Preventative Maintenance               |
| <input type="checkbox"/> Spill and Leak Prevention and Response | <input type="checkbox"/> Material Handling and Waste Management |
| <input type="checkbox"/> Erosion and Sediment Controls          | <input type="checkbox"/> Quality Assurance and Record Keeping   |
| <input type="checkbox"/> Advanced BMPs                          | <input type="checkbox"/> Visual Monitoring                      |
| <input type="checkbox"/> Storm water Sampling and Analysis      |                                                                 |

Specific Training Objective: \_\_\_\_\_

Location: \_\_\_\_\_

Date: \_\_\_\_\_

Instructor: \_\_\_\_\_

Telephone: \_\_\_\_\_

Course Length (hours): \_\_\_\_\_

**Attendee Roster (Attach additional forms if necessary)**

Name	Company	Phone

As needed, add proof of external training (e.g., course completion certificates, credentials for QISP).



## **APPENDIX D**

### **QISP**

---

## Identification of QISP

Facility Name: Carpinteria Oil and Gas Plant (5675 Carpinteria Avenue, Carpinteria, California)

WDID #: 3 421027549

The following are QISPs associated with this project.

Name of Personnel <sup>(1)</sup>	Company	Date	QISP Certification No.
Chris Prevost	Padre	10/10/18	C 64668

(1) If additional QISPs are required, add additional lines and include information here

## **APPENDIX E**

### **SWPPP AMENDMENT CERTIFICATIONS**





## **APPENDIX F**

### **BMP IMPLEMENTATION LOG**

**Table F.1. BMP Implementation Log**

<b>INSTRUCTIONS</b>				
<b>Industrial Activity/Material and Location</b>	<b>BMP Description</b>	<b>Implementation Frequency</b>	<b>Implementation Description or Fact Sheet Reference</b>	<b>Person Responsible for Implementing BMP</b>

## **APPENDIX G FIELD FORMS**

## MONTHLY BMP INSPECTION REPORT

Date and Time of Inspection:		Date Report Written:	
<b>Part I. General Information</b>			
<b>Site Information</b>			
Facility Name:			
Facility Address:			
Photos Taken: (Circle one)	Yes	No	Photo Reference IDs:
<b>Weather</b>			
Estimate storm beginning: (date and time)		Estimate storm duration: (hours)	
Estimate time since last runoff from any drainage area: (days or hours)		Rain gauge reading and location: (in)	
Is a "Qualifying Storm Event" predicted or did one occur (i.e., discharge from site preceded by 48-hrs without discharge)? (Y/N) If yes, summarize forecast:			
<b>Exception Documentation (explanation required if inspection could not be conducted).</b>			
<b>Inspector Information</b>			
Inspector Name:		Inspector Title:	
Signature:		Date:	



Part II. BMP Observations. Describe deficiencies in Part III.			
Minimum BMPs (List and Inspect all BMPs Implemented)	Failures or other Deficiencies (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
<b>Good Housekeeping</b>			
<b>Preventative Maintenance</b>			
<b>Spill and Leak Prevention and Response</b>			
<b>Materials Handling and Waste Management</b>			
<b>Erosion and Sediment Controls</b>			

Part II. BMP Observations Continued. Describe deficiencies in Part III.			
Advanced BMPs (List and Inspect all BMPs Implemented)	Adequately designed, implemented and effective (yes, no, N/A)	Action Required (yes/no)	Action Implemented (Date)
<b>Exposure Minimization BMPs</b>			
<b>Stormwater Containment and Discharge Reduction BMPs</b>			
<b>Treatment Control BMPs</b>			
<b>Other Advanced BMPs</b>			

Part III. Descriptions of BMP Deficiencies		
Deficiency	Repairs Implemented: Note - Repairs must be completed as soon as possible.	
	Repaired (Y/N)	Corrective Action Implemented
1.		
2.		
3.		
4.		

Part IV. Additional Corrective Actions Required. Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Identify BMPs that need more frequent inspection. Note if SWPPP change is required.	
Required Actions	Implementation Date

**MONTHLY VISUAL OBSERVATION REPORT  
FOR  
DRY WEATHER SEASON**

Date and Time of Inspection:	Date Report Written:	5 Year Record Retention Date:
<b>Site Information</b>		
Facility Name:		
Facility Address:		
<b>Weather Conditions</b>		
Antecedent Conditions (last 48 hours):	Current Weather:	
<b>Exception Documentation</b> (explanation required if inspection could not be conducted)		
<b>Non-Storm Water Discharge (NSWD) Observations</b>		
Were any authorized non-storm water discharges observed?    Yes <input type="checkbox"/> No <input type="checkbox"/>		
Were any unauthorized non-storm water discharges observed? Yes <input type="checkbox"/> No <input type="checkbox"/>		
If yes to either, identify source(s) and describe discharge(s):		
<b>Outdoor Equipment, Maintenance, Storage, and Parking Area Observations</b>		
Drainage Area 1:	Were any deficiencies in BMPs or any other potential source of industrial pollutants observed? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Drainage Area 2:	Were any deficiencies in BMPs or any other potential source of industrial pollutants observed? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Drainage Area 3:	Were any deficiencies in BMPs or any other potential source of industrial pollutants observed? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Drainage Area 4:	Were any deficiencies in BMPs or any other potential source of industrial pollutants observed? Yes <input type="checkbox"/> No <input type="checkbox"/>	
If yes to any of the above, describe and provide proposed mitigation measures (also provide follow-up information from previous month's deficiencies, if any, here):		
<b>Observer Information</b>		
Observer Name:	Observer Title:	
Signature:	Date:	



**MONTHLY VISUAL OBSERVATION REPORT  
FOR  
WET WEATHER SEASON AND/OR DURING SAMPING EVENTS**

Date and Time of Inspection:	Date Report Written:	Five Year Record Retention Date:
<b>Site Information</b>		
Facility Name:		
Facility Address:		
<b>Weather Conditions (at time of observation)</b>		
Antecedent Conditions (last 48 hours):	Current Weather:	
Estimated storm beginning (date and time):	Estimated time since last storm event:	
Estimated storm event precipitation at time of sampling (or rain gauge reading):	Estimated storm duration (hours):	
<b>Exception Documentation (explanation required if inspection could not be conducted)</b>		
<b>Sampling Point and/or Surface Runoff / Discharge Observations</b>		
If yes to any below, provide description and/or location identified in space provided:		
Odors:                      Yes <input type="checkbox"/> No <input type="checkbox"/>		
Floating material:        Yes <input type="checkbox"/> No <input type="checkbox"/>		
Suspended material:    Yes <input type="checkbox"/> No <input type="checkbox"/>		
Sheen:                      Yes <input type="checkbox"/> No <input type="checkbox"/>		
Discolorations:          Yes <input type="checkbox"/> No <input type="checkbox"/>		
Turbidity:                Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Non-Storm Water Discharge (NSWD) Observations</b>		
Were any authorized non-storm water discharges observed?    Yes <input type="checkbox"/> No <input type="checkbox"/>		
Were any unauthorized non-storm water discharges observed?    Yes <input type="checkbox"/> No <input type="checkbox"/>		
If yes to either, identify source(s) and describe discharge(s):		

Outdoor Equipment, Maintenance, Storage and Parking Area Observations	
Drainage Area 1:	Were any deficiencies in BMPs or any other potential source of industrial pollutants observed? Yes <input type="checkbox"/> No <input type="checkbox"/>
Drainage Area 2:	Were any deficiencies in BMPs or any other potential source of industrial pollutants observed? Yes <input type="checkbox"/> No <input type="checkbox"/>
Drainage Area 3:	Were any deficiencies in BMPs or any other potential source of industrial pollutants observed? Yes <input type="checkbox"/> No <input type="checkbox"/>
Drainage Area 4:	Were any deficiencies in BMPs or any other potential source of industrial pollutants observed? Yes <input type="checkbox"/> No <input type="checkbox"/>
<p>If yes to any of the above, describe and provide proposed mitigation measures (also provide follow-up information from previous month's deficiencies, if any, here):</p> <hr/>	
Observer Information	
Observer Name:	Observer Title:
Signature:	Date:

## STORM WATER SAMPLING LOG

Date:	Time Start:	Time End:	Sampled by:
<b>Site Information</b>			
Facility Name:			
Facility Address:			
<b>Field Meter Calibration</b>			
pH Meter ID No./Description:		Calibration Date/Time:	
<b>Field pH Measurements</b>			
<i>Sample ID or Discharge Area</i>	<i>pH</i>	<i>Time</i>	
<b>Sample Information</b>			
<i>Sample ID</i>	<i>Constituents to be Analyzed</i>	<i>Time Collected</i>	
<b>Additional Sampling Notes:</b>			



4100 Atlas Ct. – Bakersfield, CA 93308 – 661.327.4911 – Fax: 661.327.1918 – [www.pacelabs.com](http://www.pacelabs.com)

## Chain of Custody Form

Page \_\_\_\_\_ of \_\_\_\_\_

[illegible]

Pace Analytical Bakersfield does not accept samples containing radioactive material above background levels. Samples containing radioactive material must be disclosed prior to receipt. Any samples suspected of containing radioactive material above background levels will not be accepted and will be returned to client.



**APPENDIX H**  
**BMP FACT SHEETS (PDF COPY ONLY)**

## Description

Non-stormwater discharges (NSWDs) are flows that do not consist entirely of stormwater. Some non-stormwater discharges do not include pollutants and may be discharged to the storm drain if local regulations allow. These include uncontaminated groundwater and natural springs. There are also some non-stormwater discharges that typically do not contain pollutants and may be discharged to the storm drain with conditions. These include: potable water sources, fire hydrant flushing, air conditioner condensate, landscape irrigation drainage and landscape watering, emergency firefighting, etc. as discussed in Section 2.

However there are certain non-stormwater discharges that pose an environmental concern. These discharges may originate from illegal dumping of industrial material or wastes and illegal connections such as internal floor drains, appliances, industrial processes, sinks, and toilets that are illegally connected to the nearby storm drainage system through on-site drainage and piping. These unauthorized discharges (examples of which may include: process waste waters, cooling waters, wash waters, and sanitary wastewater) can carry substances such as paint, oil, fuel and other automotive fluids, chemicals and other pollutants into storm drains.

Non-stormwater discharges will need to be addressed through a combination of detection and elimination. The ultimate goal is to effectively eliminate unauthorized non-stormwater discharges to the stormwater drainage system through implementation of measures to detect, correct, and enforce against illicit connections and illegal discharges of

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Targeted Constituents

<i>Sediment</i>	
<i>Nutrients</i>	✓
<i>Trash</i>	
<i>Metals</i>	✓
<i>Bacteria</i>	✓
<i>Oil and Grease</i>	✓
<i>Organics</i>	✓

## Minimum BMPs Covered

	<i>Good Housekeeping</i>	✓
	<i>Preventative Maintenance</i>	
	<i>Spill and Leak Prevention and Response</i>	✓
	<i>Material Handling &amp; Waste Management</i>	
	<i>Erosion and Sediment Controls</i>	
	<i>Employee Training Program</i>	✓
	<i>Quality Assurance Record Keeping</i>	✓



pollutants on streets and into the storm drain system and downstream water bodies.

## **Approach**

Initially the Discharger must make an assessment of non-stormwater discharges to determine which types must be eliminated or addressed through BMPs. The focus of the following approach is the elimination of unauthorized non-stormwater discharges. See other BMP Fact Sheets for activity-specific pollution prevention procedures.

### ***General Pollution Prevention Protocols***

- ❑ Implement waste management controls described in SC-34 Waste Handling and Disposal.
- ❑ Develop clear protocols and lines of communication for effectively prohibiting non-stormwater discharges, especially those that are not classified as hazardous. These are often not responded to as effectively as they need to be.
- ❑ Stencil or demarcate storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as “Dump No Waste Drains to Stream” or similar stenciled or demarcated next to them to warn against ignorant or unintentional dumping of pollutants into the storm drainage system.
- ❑ Manage and control sources of water such as hose bibs, faucets, wash racks, irrigation heads, etc. Identify hoses and faucets in the SWPPP, and post signage for appropriate use.

### ***Non-Stormwater Discharge Investigation Protocols***

Identifying the sources of non-stormwater discharges requires the Discharger to conduct an investigation of the facility at regular intervals. There are several categories of non-stormwater discharges:

- ❑ Visible, easily identifiable discharges, typically generated as surface runoff, such as uncontained surface runoff from vehicle or equipment washing; and
- ❑ Non-visible, (e.g., subsurface) discharges into the site drainage system through a variety of pathways that are not obvious.

The approach to detecting and eliminating non-stormwater discharges will vary considerably, as discussed below:

### ***Visible and identifiable discharges***

- ❑ Conduct routine inspections of the facilities and of each major activity area and identify visible evidence of unauthorized non-stormwater discharges. This may include:
  - ✓ Visual observations of actual discharges occurring;

- ✓ Evidence of surface staining, discoloring etc. that indicates that discharges have occurred;
  - ✓ Pools of water in low lying areas when a rain event has not occurred; and
  - ✓ Discussions with operations personnel to understand practices that may lead to unauthorized discharges.
- If evidence of non-stormwater discharges is discovered:
- ✓ Document the location and circumstances using Worksheets 5 and 6 (Section 2 of the manual), including digital photos;
  - ✓ Identify and implement any quick remedy or corrective action (e.g., moving uncovered containers inside or to a proper location); and
  - ✓ Develop a plan to eliminate the discharge. Consult the appropriate activity-specific BMP Fact Sheet for alternative approaches to manage and eliminate the discharge.
- Consult the appropriate activity-specific BMP Fact Sheet for alternative approaches to manage and eliminate the discharge. Make sure the facility SWPPP is up-to-date and includes applicable BMPs to address the non-stormwater discharge.

## ***Other Illegal Discharges (Non visible)***

### *Illicit Connections*

- Locate discharges from the industrial storm drainage system to the municipal storm drain system through review of “as-built” piping schematics.
- Isolate problem areas and plug illicit discharge points.
- Locate and evaluate discharges to the storm drain system.
- Visual Inspection and Inventory:
  - ✓ Inventory and inspect each discharge point during dry weather.
  - ✓ Keep in mind that drainage from a storm event can continue for a day or two following the end of a storm and groundwater may infiltrate the underground stormwater collection system.
  - ✓ Non-stormwater discharges are often intermittent and may require periodic inspections.

### *Review Infield Piping*

- A review of the “as-built” piping schematic is a way to determine if there are any connections to the stormwater collection system.



- Inspect the path of loading/unloading area drain inlets and floor drains in older buildings.
- Never assume storm drains are connected to the sanitary sewer system.

## *Monitoring for investigation/detection of illegal discharges*

- If a suspected illegal or unknown discharge is detected, monitoring of the discharge may help identify the content and/or suggest the source. This may be done with a field screening analysis, flow meter measurements, or by collecting a sample for laboratory analysis. Section 5 and Appendix D describe the necessary field equipment and procedures for field investigations.
- Investigative monitoring may be conducted over time. For example if, a discharge is intermittent, then monitoring might be conducted to determine the timing of the discharge to determine the source.
- Investigative monitoring may be conducted over a spatial area. For example, if a discharge is observed in a pipe, then monitoring might be conducted at accessible upstream locations in order to pinpoint the source of the discharge.
- Generally, investigative monitoring requiring collection of samples and submittal for lab analysis requires proper planning and specially trained staff.

## *Smoke Testing*

Smoke testing of wastewater and stormwater collection systems is used to detect connections between the two piping systems. Smoke testing is generally performed at a downstream location and the smoke is forced upstream using blowers to create positive pressure. The advantage to smoke testing is that it can potentially identify multiple potential discharge sources at once.

- Smoke testing uses a harmless, non-toxic smoke cartridges developed specifically for this purpose.
- Smoke testing requires specialized equipment (e.g., cartridges, blowers) and is generally only appropriate for specially trained staff.
- A Standard Operating Procedure (SOP) for smoke testing is highly desirable. The SOP should address the following elements:
  - ✓ Proper planning and notification of nearby residents and emergency services is necessary since introducing smoke into the system may result in false alarms;
  - ✓ During dry weather, the stormwater collection system is filled with smoke and then traced back to sources;

# Non-Stormwater Discharges **SC-10**

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- ✓ Temporary isolation of segments of pipe using sand bags is often needed to force the smoke into leaking pipes; and
- ✓ The appearance of smoke in a waste vent pipe, at a sewer manhole, or even the base of a toilet indicates that there may be a connection between the sanitary and storm water systems.
- Most municipal wastewater agencies will have necessary staff and equipment to conduct smoke testing and they should be contacted if cross connections with the sanitary sewer are suspected. See SC-44 Drainage System Maintenance for more information.

## *Dye Testing*

- Dye testing is typically performed when there is a suspected specific pollutant source and location (i.e., leaking sanitary sewer) and there is evidence of dry weather flows in the stormwater collection system.
- Dye is released at a probable upstream source location, either the facility's sanitary or process wastewater system. The dye must be released with a sufficient volume of water to flush the system.
- Operators then visually examine the downstream discharge points from the stormwater collection system for the presence of the dye.
- Dye testing can be performed informally using commercially available products in order to conduct an initial investigation for fairly obvious cross-connections.
- More detailed dye testing should be performed by properly trained staff and follow SOPs. Specialized equipment such as fluorometers may be necessary to detect low concentrations of dye.
- Most municipal wastewater agencies will have necessary staff and equipment to conduct dye testing and they should be contacted if cross connections with the sanitary sewer are suspected.

## *TV Inspection of Drainage System*

- Closed Circuit Television (CCTV) can be employed to visually identify illicit connections to the industrial storm drainage system. Two types of CCTV systems are available: (1) a small specially designed camera that can be manually pushed on a stiff cable through storm drains to observe the interior of the piping, or (2) a larger remote operated video camera on treads or wheels that can be guided through storm drains to view the interior of the pipe.
- CCTV systems often include a high-pressure water jet and camera on a flexible cable. The water jet cleans debris and biofilm off the inside of pipes so the camera can take video images of the pipe condition.

- ❑ CCTV units can detect large cracks and other defects such as offsets in pipe ends caused by root intrusions or shifting substrate.
- ❑ CCTV can also be used to detect dye introduced into the sanitary sewer.
- ❑ CCTV inspections require specialized equipment and properly trained staff and are generally best left to specialized contractors or municipal public works staff.

## ***Illegal Dumping***

- ❑ Substances illegally dumped on streets and into the storm drain systems and creeks may include paints, used oil and other automotive fluids, construction debris, chemicals, fresh concrete, leaves, grass clippings, and pet wastes. These wastes can cause stormwater and receiving water quality problems as well as clog the storm drain system itself.
- ❑ Establish a system for tracking incidents. The system should be designed to identify the following:
  - ✓ Illegal dumping hot spots;
  - ✓ Types and quantities (in some cases) of wastes;
  - ✓ Patterns in time of occurrence (time of day/night, month, or year);
  - ✓ Mode of dumping (abandoned containers, “midnight dumping” from moving vehicles, direct dumping of materials, accidents/spills);
  - ✓ An anonymous tip/reporting mechanism; and
  - ✓ Evidence of responsible parties (e.g., tagging, encampments, etc.).
- ❑ One of the keys to success of reducing or eliminating illegal dumping is increasing the number of people at the facility who are aware of the problem and who have the tools to at least identify the incident, if not correct it. Therefore, train field staff to recognize and report the incidents.

Once a site has been cleaned:

- ❑ Post “No Dumping” signs with a phone number for reporting dumping and disposal.
- ❑ Landscaping and beautification efforts of hot spots may also discourage future dumping, as well as provide open space and increase property values.
- ❑ Lighting or barriers may also be needed to discourage future dumping.
- ❑ See fact sheet SC-11 Spill Prevention, Control, and Cleanup.

## *Inspection*

- ❑ Regularly inspect and clean up hot spots and other storm drainage areas where illegal dumping and disposal occurs.
- ❑ Conduct field investigations of the industrial storm drain system for potential sources of non-stormwater discharges.
- ❑ Pro-actively conduct investigations of high priority areas. Based on historical data, prioritize specific geographic areas and/or incident type for pro-active investigations.



## ***Spill and Leak Prevention and Response***

- ❑ On paved surfaces, clean up spills with as little water as possible. Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste.
- ❑ Never hose down or bury dry material spills. Sweep up the material and dispose of properly.
- ❑ Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.
- ❑ For larger spills, a private spill cleanup company or Hazmat team may be necessary.
- ❑ See SC-11 Spill Prevention Control and Cleanup.



## ***Employee Training Program***

- ❑ Training of technical staff in identifying and documenting illegal dumping incidents is required. The frequency of training must be presented in the SWPPP, and depends on site-specific industrial materials and activities.
- ❑ Consider posting a quick reference table near storm drains to reinforce training.
- ❑ Train employees to identify non-stormwater discharges and report discharges to the appropriate departments.
- ❑ Educate employees about spill prevention and cleanup.
- ❑ Well-trained employees can reduce human errors that lead to accidental releases or spills. The employee should have the tools and knowledge to immediately begin cleaning up a spill should one occur. Employees should be familiar with the Spill Prevention Control and Countermeasure Plan. Employees should be able to identify work/jobs with high potential for spills and suggest methods to reduce possibility.
- ❑ Determine and implement appropriate outreach efforts to reduce non-permissible non-stormwater discharges.



- ☐ Conduct spill response drills annually (if no events occurred) in order to evaluate the effectiveness of the plan.
- ☐ When a responsible party is identified, educate the party on the impacts of his or her actions.



## **Quality Assurance and Record Keeping**

### *Performance Evaluation*

- ☐ Annually review internal investigation results; assess whether goals were met and what changes or improvements are necessary.
- ☐ Obtain feedback from personnel assigned to respond to, or inspect for, illicit connections and illegal dumping incidents.
- ☐ Develop document and data management procedures.
- ☐ A database is useful for defining and tracking the magnitude and location of the problem.
- ☐ Report prohibited non-stormwater discharges observed during the course of normal daily activities so they can be investigated, contained, and cleaned up or eliminated.
- ☐ Document that non-stormwater discharges have been eliminated by recording tests performed, methods used, dates of testing, and any on-site drainage points observed.
- ☐ Annually document and report the results of the program.
- ☐ Maintain documentation of illicit connection and illegal dumping incidents, including significant conditionally exempt discharges that are not properly managed.
- ☐ Document training activities.

## **Potential Limitations and Work-Arounds**

Some facilities may have space constraints, limited staffing and time limitations that may preclude implementation of BMPs. Provided below are typical limitations and recommended “work-arounds.”

- ☐ Many facilities do not have accurate, up-to-date ‘as-built’ plans or drawings which may be necessary in order to conduct non-stormwater discharge assessments.
  - ✓ Online tools such as Google Earth™ can provide an aerial view of the facility and may be useful in understanding drainage patterns and potential sources of non-stormwater discharges
  - ✓ Local municipal jurisdictions may have useful drainage systems maps.

- Video surveillance cameras are commonly used to secure the perimeter of industrial facilities against break-ins and theft. These surveillance systems may also be useful for capturing illegal dumping activities. Minor, temporary adjustments to the field of view of existing surveillance camera systems to target known or suspected problem areas may be a cost-effective way of capturing illegal dumping activities and identifying the perpetrators.

## **Potential Capital Facility Costs and Operation & Maintenance Requirements**

### ***Facilities***

- Capital facility cost requirements may be minimal unless cross-connections to storm drains are detected.
- Indoor floor drains may require re-plumbing if cross-connections are detected.
- Leaky sanitary sewers will require repair or replacement which can have significant costs depending on the size and industrial activity at the facility.

### ***Maintenance (including administrative and staffing)***

- The primary effort is for staff time and depends on how aggressively a program is implemented.
- Costs for containment, and disposal of any leak or discharge is borne by the Discharger.
- Illicit connections can be difficult to locate especially if there is groundwater infiltration.
- Illegal dumping and illicit connection violations requires technical staff to detect and investigate them.

## **Supplemental Information**

### ***Permit Requirements***

The IGP authorizes certain Non-Storm Water Discharges (NSWDs) provided BMPs are included in the SWPPP and implemented to:

- Reduce or prevent the contact of authorized NSWDs with materials or equipment that are potential sources of pollutants;
- Reduce, to the extent practicable, the flow or volume of authorized NSWDs;
- Ensure that authorized NSWDs do not contain quantities of pollutants that cause or contribute to an exceedance of a water quality standards (WQS); and,

- Reduce or prevent discharges of pollutants in authorized NSWs in a manner that reflects best industry practice considering technological availability and economic practicability and achievability.”

## References and Resources

Center for Watershed Protection, 2004. *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, EPA Cooperative Agreement X-82907801-0.

Dublin San Ramon Sanitation District. <http://www.dsrds.com/www/smoketest.html>.

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: <http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities>.

Sacramento Stormwater Management Program, *Best Management Practices for Industrial Storm Water Pollution Control*, Available online at: <http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf>.

Santa Clara Valley Urban Runoff Pollution Prevention Program. <http://www.scvurppp.org>.

Southern California Coastal Water Research Project, 2013. *The California Microbial Source Identification Manual: A Tiered Approach to Identifying Fecal Pollution Sources to Beaches*, Technical Report 804.

The Storm Water Managers Resource Center, <http://www.stormwatercenter.net/>.

US EPA. National Pollutant Discharge Elimination System. Available online at: [http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=factsheet\\_results&view=specific&bmp=111](http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=factsheet_results&view=specific&bmp=111).

WEF Press Alexandria, Virginia, 2009. Existing Sewer Evaluation and Rehabilitation: *WEF Manual of Practice No. FD-6 ASCE/EWRI Manuals and Reports on Engineering Practice No. 62, Third Edition*.

# Spill Prevention, Control & Cleanup SC-11

## Description

Many activities that occur at an industrial or commercial site have the potential to cause accidental spills. Preparation for accidental spills, with proper training and reporting systems implemented, can minimize the discharge of pollutants to the environment.

Spills and leaks are one of the largest contributors of stormwater pollutants. Spill prevention and control plans are applicable to any site at which hazardous materials are stored or used. An effective plan should have spill prevention and response procedures that identify hazardous material storage areas, specify material handling procedures, describe spill response procedures, and provide locations of spill clean-up equipment and materials. The plan should take steps to identify and characterize potential spills, eliminate and reduce spill potential, respond to spills when they occur in an effort to prevent pollutants from entering the stormwater drainage system, and train personnel to prevent and control future spills. An adequate supply of spill clean-up materials must be maintained onsite.

## Approach

### General Pollution Prevention Protocols

- ☐ Develop procedures to prevent/mitigate spills to storm drain systems.
- ☐ Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.
- ☐ Establish procedures and/or controls to minimize spills and leaks. The procedures should address:
  - ✓ Description of the facility, owner and address, activities, chemicals, and quantities present;

### Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

### Targeted Constituents

Sediment

Nutrients

Trash

Metals

✓

Bacteria

Oil and Grease

✓

Organics

✓

### Minimum BMPs Covered



Good Housekeeping



Preventative  
Maintenance



Spill and Leak  
Prevention and  
Response

✓



Material Handling &  
Waste Management



Erosion and Sediment  
Controls



Employee Training  
Program

✓



Quality Assurance  
Record Keeping

✓



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# **Spill Prevention, Control & Cleanup SC-11**

- ✓ Facility map of the locations of industrial materials;
  - ✓ Notification and evacuation procedures;
  - ✓ Cleanup instructions;
  - ✓ Identification of responsible departments; and
  - ✓ Identify key spill response personnel.
- Recycle, reclaim, or reuse materials whenever possible. This will reduce the amount of process materials that are brought into the facility.



## ***Spill and Leak Prevention and Response***

### ***Spill Prevention***

- Develop procedures to prevent/mitigate spills to storm drain systems. Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.
- If illegal dumping is observed at the facility:
- ✓ Post “No Dumping” signs with a phone number for reporting illegal dumping and disposal. Signs should also indicate fines and penalties applicable for illegal dumping.
  - ✓ Landscaping and beautification efforts may also discourage illegal dumping.
  - ✓ Bright lighting and/or entrance barriers may also be needed to discourage illegal dumping.
- Store and contain liquid materials in such a manner that if the container is ruptured, the contents will not discharge, flow, or be washed into the storm drainage system, surface waters, or groundwater.
- If the liquid is oil, gas, or other material that separates from and floats on water, install a spill control device (such as a tee section) in the catch basins that collects runoff from the storage tank area.



### ***Preventative Maintenance***

- Place drip pans or absorbent materials beneath all mounted taps, and at all potential drip and spill locations during filling and unloading of tanks. Any collected liquids or soiled absorbent materials must be reused/recycled or properly disposed.
- Store and maintain appropriate spill cleanup materials in a location known to all near the tank storage area; and ensure that employees are familiar with the site’s spill control plan and/or proper spill cleanup procedures.

# **Spill Prevention, Control & Cleanup SC-11**

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- ❑ Sweep and clean the storage area monthly if it is paved, *do not hose down the area to a storm drain*.
- ❑ Check tanks (and any containment sumps) daily for leaks and spills. Replace tanks that are leaking, corroded, or otherwise deteriorating with tanks in good condition. Collect all spilled liquids and properly dispose of them.
- ❑ Label all containers according to their contents (e.g., solvent, gasoline).
- ❑ Label hazardous substances regarding the potential hazard (corrosive, radioactive, flammable, explosive, poisonous).
- ❑ Prominently display required labels on transported hazardous and toxic materials (per US DOT regulations).
- ❑ Identify key spill response personnel.

## ***Spill Response***

- ❑ Clean up leaks and spills immediately.
- ❑ Place a stockpile of spill cleanup materials where it will be readily accessible (e.g., near storage and maintenance areas).
- ❑ On paved surfaces, clean up spills with as little water as possible.
  - ✓ Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills.
  - ✓ If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste.
  - ✓ If possible use physical methods for the cleanup of dry chemicals (e.g., brooms, shovels, sweepers, or vacuums).
- ❑ Never hose down or bury dry material spills. Sweep up the material and dispose of properly.
- ❑ Chemical cleanups of material can be achieved with the use of adsorbents, gels, and foams. Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.
- ❑ For larger spills, a private spill cleanup company or Hazmat team may be necessary.

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## *Reporting*

- ☐ Report spills that pose an immediate threat to human health or the environment to the Regional Water Quality Control Board or local authority as location regulations dictate.
- ☐ Federal regulations require that any oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 800-424-8802 (24 hour).
- ☐ Report spills to 911 for dispatch and clean-up assistance when needed. Do not contact fire agencies directly.
- ☐ Establish a system for tracking incidents. The system should be designed to identify the following:
  - ✓ Types and quantities (in some cases) of wastes;
  - ✓ Patterns in time of occurrence (time of day/night, month, or year);
  - ✓ Mode of dumping (abandoned containers, “midnight dumping” from moving vehicles, direct dumping of materials, accidents/spills);
  - ✓ Clean-up procedures; and
  - ✓ Responsible parties.



## **Employee Training Program**

- ☐ Educate employees about spill prevention and cleanup.
- ☐ Well-trained employees can reduce human errors that lead to accidental releases or spills:
  - ✓ The employee should have the tools and knowledge to immediately begin cleaning up a spill should one occur; and
  - ✓ Employees should be familiar with the Spill Prevention Control and Countermeasure Plan.
- ☐ Employees should be educated about aboveground storage tank requirements. Employees responsible for aboveground storage tanks and liquid transfers should be thoroughly familiar with the Spill Prevention Control and Countermeasure Plan and the plan should be readily available.
- ☐ Train employees to recognize and report illegal dumping incidents.

# **Spill Prevention, Control & Cleanup SC-11**

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## ***Other Considerations (Limitations and Regulations)***

- ☐ State regulations exist for facilities with a storage capacity of 10,000 gallons or more of petroleum to prepare a Spill Prevention Control and Countermeasure (SPCC) Plan (Health & Safety Code Chapter 6.67).
- ☐ State regulations also exist for storage of hazardous materials (Health & Safety Code Chapter 6.95), including the preparation of area and business plans for emergency response to the releases or threatened releases.
- ☐ Consider requiring smaller secondary containment areas (less than 200 sq. ft.) to be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.

## **Requirements**

### ***Costs (including capital and operation & maintenance)***

- ☐ Will vary depending on the size of the facility and the necessary controls.
- ☐ Prevention of leaks and spills is inexpensive. Treatment and/or disposal of contaminated soil or water can be quite expensive.

### ***Maintenance (including administrative and staffing)***

- ☐ Develop spill prevention and control plan, provide and document training, conduct inspections of material storage areas, and supply spill kits.
- ☐ Extra time is needed to properly handle and dispose of spills, which results in increased labor costs.

## **Supplemental Information**

### ***Further Detail of the BMP***

#### ***Reporting***

Record keeping and internal reporting represent good operating practices because they can increase the efficiency of the facility and the effectiveness of BMPs. A good record keeping system helps the facility minimize incident recurrence, correctly respond with appropriate cleanup activities, and comply with legal requirements. A record keeping and reporting system should be set up for documenting spills, leaks, and other discharges, including discharges of hazardous substances in reportable quantities. Incident records describe the quality and quantity of non-stormwater discharges to the storm sewer. These records should contain the following information:

- ☐ Date and time of the incident;
- ☐ Weather conditions;
- ☐ Duration of the spill/leak/discharge;



# **Spill Prevention, Control & Cleanup SC-11**

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- ☐ Cause of the spill/leak/discharge;
- ☐ Response procedures implemented;
- ☐ Persons notified; and
- ☐ Environmental problems associated with the spill/leak/discharge.

Separate record keeping systems should be established to document housekeeping and preventive maintenance inspections, and training activities. All housekeeping and preventive maintenance inspections should be documented. Inspection documentation should contain the following information:

- ☐ Date and time the inspection was performed;
- ☐ Name of the inspector;
- ☐ Items inspected;
- ☐ Problems noted;
- ☐ Corrective action required; and
- ☐ Date corrective action was taken.

Other means to document and record inspection results are field notes, timed and dated photographs, videotapes, and drawings and maps.

## *Aboveground Tank Leak and Spill Control*

Accidental releases of materials from aboveground liquid storage tanks present the potential for contaminating stormwater with many different pollutants. Materials spilled, leaked, or lost from tanks may accumulate in soils or on impervious surfaces and be carried away by stormwater runoff.

The most common causes of unintentional releases are:

- ☐ Installation problems;
- ☐ Failure of piping systems (pipes, pumps, flanges, couplings, hoses, and valves);
- ☐ External corrosion and structural failure;
- ☐ Spills and overfills due to operator error; and
- ☐ Leaks during pumping of liquids or gases from truck or rail car to a storage tank or vice versa.

# **Spill Prevention, Control & Cleanup SC-11**

Storage of reactive, ignitable, or flammable liquids should comply with the Uniform Fire Code and the National Electric Code. Practices listed below should be employed to enhance the code requirements:

- ☐ Tanks should be placed in a designated area.
- ☐ Tanks located in areas where firearms are discharged should be encapsulated in concrete or the equivalent.
- ☐ Designated areas should be impervious and paved with Portland cement concrete, free of cracks and gaps, in order to contain leaks and spills.
- ☐ Liquid materials should be stored in UL approved double walled tanks or surrounded by a curb or dike to provide the volume to contain 10 percent of the volume of all of the containers or 110 percent of the volume of the largest container, whichever is greater. The area inside the curb should slope to a drain.
- ☐ For used oil or dangerous waste, a dead-end sump should be installed in the drain.
- ☐ All other liquids should be drained to the sanitary sewer if available. The drain must have a positive control such as a lock, valve, or plug to prevent release of contaminated liquids.
- ☐ Accumulated stormwater in petroleum storage areas should be passed through an oil/water separator.

Maintenance is critical to preventing leaks and spills. Conduct routine inspections and:

- ☐ Check for external corrosion and structural failure.
- ☐ Check for spills and overfills due to operator error.
- ☐ Check for failure of piping system (pipes, pumps, flanges, coupling, hoses, and valves).
- ☐ Check for leaks or spills during pumping of liquids or gases from truck or rail car to a storage facility or vice versa.
- ☐ Visually inspect new tank or container installation for loose fittings, poor welding, and improper or poorly fitted gaskets.
- ☐ Inspect tank foundations, connections, coatings, and tank walls and piping system. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.
- ☐ Frequently relocate accumulated stormwater during the wet season.

# **Spill Prevention, Control & Cleanup SC-11**

- ❑ Periodically conduct integrity testing by a qualified professional.

## *Vehicle Leak and Spill Control*

Major spills on roadways and other public areas are generally handled by highly trained Hazmat teams from local fire departments or environmental health departments. The measures listed below pertain to leaks and smaller spills at vehicle maintenance shops.

In addition to implementing the spill prevention, control, and clean up practices above, use the following measures related to specific activities:

## *Vehicle and Equipment Maintenance*

- ❑ Perform all vehicle fluid removal or changing inside or under cover to prevent the run-on of stormwater and the runoff of spills.
- ❑ Regularly inspect vehicles and equipment for leaks, and repair immediately.
- ❑ Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
- ❑ Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- ❑ Immediately drain all fluids from wrecked vehicles.
- ❑ Store wrecked vehicles or damaged equipment under cover.
- ❑ Place drip pans or absorbent materials under heavy equipment when not in use.
- ❑ Use absorbent materials on small spills rather than hosing down the spill.
- ❑ Remove the adsorbent materials promptly and dispose of properly.
- ❑ Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
- ❑ Oil filters disposed of in trashcans or dumpsters can leak oil and contaminate stormwater. Place the oil filter in a funnel over a waste oil recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask your oil supplier or recycler about recycling oil filters.
- ❑ Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries, even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

# **Spill Prevention, Control & Cleanup SC-11**

## *Vehicle and Equipment Fueling*

- ☐ Design the fueling area to prevent the run-on of stormwater and the runoff of spills:

Cover fueling area if possible.

Use a perimeter drain or slope pavement inward with drainage to a sump.

Pave fueling area with concrete rather than asphalt.

- ☐ If dead-end sump is not used to collect spills, install an oil/water separator.
- ☐ Install vapor recovery nozzles to help control drips as well as air pollution.
- ☐ Discourage “topping-off” of fuel tanks.
- ☐ Use secondary containment when transferring fuel from the tank truck to the fuel tank.
- ☐ Use absorbent materials on small spills and general cleaning rather than hosing down the area. Remove the absorbent materials promptly.
- ☐ Carry out all Federal and State requirements regarding underground storage tanks, or install above ground tanks.
- ☐ Do not use mobile fueling of mobile industrial equipment around the facility; rather, transport the equipment to designated fueling areas.
- ☐ Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- ☐ Train employees in proper fueling and cleanup procedures.

## ***Industrial Spill Prevention Response***

For the purposes of developing a spill prevention and response program to meet the stormwater regulations, facility managers should use information provided in this fact sheet and the spill prevention/response portions of the fact sheets in this handbook, for specific activities.

The program should:

- ☐ Integrate with existing emergency response/hazardous materials programs (e.g., Fire Department).
- ☐ Develop procedures to prevent/mitigate spills to storm drain systems.
- ☐ Identify responsible departments.



# **Spill Prevention, Control & Cleanup SC-11**

- ❑ Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.
- ❑ Address spills at municipal facilities, as well as public areas.
- ❑ Provide training concerning spill prevention, response and cleanup to all appropriate personnel.

## **References and Resources**

California's Nonpoint Source Program Plan. <http://www.swrcb.ca.gov/nps/index.html>.

Clark County Storm Water Pollution Control Manual. Available online at:  
<http://www.co.clark.wa.us/pubworks/bmpman.pdf>.

King County Storm Water Pollution Control Manual. Available online at:  
<http://dnr.metrokc.gov/wlr/dss/spcm.htm>.

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at:  
<http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities>

Santa Clara Valley Urban Runoff Pollution Prevention Program.  
<http://www.scvurppp.org>.

The Stormwater Managers Resource Center. <http://www.stormwatercenter.net/>.

# Vehicle and Equipment Fueling SC-20

## Description

Spills and leaks that occur during vehicle and equipment fueling can contribute hydrocarbons, oil and grease, as well as heavy metals, to stormwater runoff. Implementing the following management practices can help prevent fuel spills and leaks.

## Approach

- Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

## General Pollution Prevention Protocols

- Use properly maintained off-site fueling stations whenever possible. These businesses are better equipped to handle fuel and spills properly.
- Focus pollution prevention activities on containment of spills and leaks, most of which may occur during liquid transfers.



## Good Housekeeping

- "Spot clean" leaks and drips routinely. Leaks are not cleaned up until the absorbent is picked up and disposed of properly.
- Manage materials and waste properly (see Material Handling and Waste Management) to reduce adverse impacts on stormwater quality.
- Paint signs on storm drain inlets to indicate that they are not to receive liquid or solid wastes.
- Post signs at sinks to remind employees not to pour wastes down drains.

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Targeted Constituents

Sediment

Nutrients

Trash

✓

Metals

✓

Bacteria

Oil and Grease

✓

Organics

✓

## Minimum BMPs Covered



Good Housekeeping

✓



Preventative Maintenance

✓



Spill and Leak Prevention and Response

✓



Material Handling & Waste Management

✓



Erosion and Sediment Controls



Employee Training Program

✓



Quality Assurance Record Keeping

✓



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# Vehicle and Equipment Fueling SC-20

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- ☐ Clean yard storm drain inlets(s) regularly and especially after large storms.
- ☐ Do not pour materials down storm drains.
- ☐ Build a shed or temporary roof over fueling area to limit exposure to rain.
- ☐ Post signs to remind employees and customers not to top off the fuel tank when filling and signs that ban customers and employees from changing engine oil or other fluids at that location.
- ☐ Report leaking vehicles to fleet maintenance.
- ☐ Ensure the following safeguards are in place:
  - ✓ Overflow protection devices on tank systems to warn the operator or automatically shut down transfer pumps when the tank reaches full capacity.
  - ✓ Protective guards around tanks and piping to prevent vehicle or forklift damage.
  - ✓ Clear tagging or labeling of all valves to reduce human error.
  - ✓ Emergency shut-off and emergency phone number.



## ***Preventative Maintenance***

### ***Fuel Dispensing Areas***

- ☐ Inspect vehicles and equipment for leaks regularly and repair immediately.
- ☐ Sweep the fueling area weekly, if it is paved, to collect loose particles, and wipe up spills with rags and other absorbent material immediately. Do not hose down the area to a storm drain.
- ☐ Fit underground storage tanks with spill containment and overfill prevention systems meeting the requirements of Section 2635(b) of Title 23 of the California Code of Regulations.
- ☐ Fit fuel dispensing nozzles with "hold-open latches" (automatic shutoffs) except where prohibited by local fire departments.
- ☐ Post signs at the fuel dispenser or fuel island warning vehicle owners/operators against "topping off" of vehicle fuel tanks.
- ☐ Design fueling area to prevent stormwater runoff and spills. Use a perimeter drain or slope pavement inward with drainage to sump; regularly remove materials accumulated in sump.
- ☐ Pave area with concrete rather than asphalt.

# Vehicle and Equipment Fueling SC-20

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- ❑ Cover fueling area with an overhanging roof structure or canopy so that precipitation cannot come in contact with the fueling area. Where covering is not feasible and the fuel island is surrounded by pavement, apply a suitable sealant that protects the asphalt from spilled fuels.
- ❑ Install vapor recovery nozzles to help control drips as well as air pollution.
- ❑ Use secondary containment when transferring fuel from the tank truck to the fuel tank. Cover storm drains in the vicinity during transfer.

## *Air/Water Supply Area*

- ❑ Minimize the possibility of stormwater pollution from air/water supply areas by doing at least one of the following:
  - ✓ Spot clean leaks and drips routinely to prevent runoff of spillage.
  - ✓ Grade and pave the air/water supply area to prevent run-on of stormwater.
  - ✓ Install a roof over the air/water supply area.
  - ✓ Install a low containment berm around the air/water supply area.

## *Inspection*

- ❑ Aboveground Tank Leak and Spill Control:
  - ✓ Check for external corrosion and structural failure.
  - ✓ Check for spills and overfills due to operator error.
  - ✓ Check for failure of piping system.
  - ✓ Check for leaks or spills during pumping of liquids or gases from truck or rail car to a storage facility or vice versa.
  - ✓ Visually inspect new tank or container installation for loose fittings, poor welding, and improper or poorly fitted gaskets.
  - ✓ Inspect tank foundations, connections, coatings, and tank walls and piping system. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.
  - ✓ Conduct integrity testing periodically by a qualified professional.
- ❑ Inspect and clean, if necessary, storm drain inlets and catch basins within the facility boundary before October 1 each year.



# Vehicle and Equipment Fueling SC-20



## ***Spill Response and Prevention Procedures***

- ☐ Keep your spill prevention and control plan up-to-date.
- ☐ Maintain an adequate stockpile of spill cleanup materials at locations where it will be readily accessible.
- ☐ Clean leaks, drips, and other spills with as little water as possible.
  - ✓ Use rags for small spills,
  - ✓ Use a damp mop for general cleanup,
  - ✓ Use dry absorbent material for larger spills.
- ☐ Use the following three-step method for cleaning floors:
  - ✓ Clean spills with rags or other absorbent materials
  - ✓ Sweep floor using dry absorbent material
  - ✓ Mop the floor. Mop water may be discharged to the sanitary sewer via a toilet or sink.
- ☐ Remove the adsorbent materials promptly and dispose of properly when using absorbent materials on small spills.
- ☐ Store portable absorbent booms (long flexible shafts or barriers made of absorbent material) in unbermed fueling areas.
- ☐ Report spills promptly.
- ☐ If a dead-end sump is not used to collect spills, install an oil/water separator.



## ***Material Handling and Waste Management***

- ☐ Do not pour liquid wastes into floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections.
- ☐ Do not put used or leftover cleaning solutions, solvents, and automotive fluids in the sanitary sewer.
- ☐ Collect leaking or dripping fluids in drip pans or containers. Fluids are easier to recycle if kept separate.
- ☐ Promptly transfer used fluids to the proper waste or recycling drums. Do not leave drip pans or other open containers lying around.

# Vehicle and Equipment Fueling SC-20

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- ❑ Minimize the possibility of stormwater pollution from outside waste receptacles by doing at least one of the following:
  - ✓ Use only watertight waste receptacle(s) and keep the lid(s) closed.
  - ✓ Grade and pave the waste receptacle area to prevent run-on of stormwater.
  - ✓ Install a roof over the waste receptacle area.
  - ✓ Install a low containment berm around the waste receptacle area.
  - ✓ Use and maintain drip pans under waste receptacles.
- ❑ Post “no littering” signs.



## ***Employee Training Program***

- ❑ Educate employees about facility-wide pollution prevention measures and goals.
- ❑ Train designated employees (e.g., those involved with the handling or management of fuels) on proper fueling and cleanup procedures.
- ❑ Train designated employees upon hiring and annually thereafter on proper methods for handling and disposing of waste. Make sure that all employees understand stormwater discharge prohibitions, wastewater discharge requirements, and these best management practices.
- ❑ Ensure that employees are familiar with the site’s spill control plan and/or proper spill cleanup procedures.
- ❑ Use a training log or similar method to document training. The training log should include entries for:
  - ✓ Training topic,
  - ✓ Trainer,
  - ✓ Attendees,
  - ✓ Frequency,
  - ✓ Comments,
  - ✓ Target date for completion of training, and
  - ✓ Date completed.



# Vehicle and Equipment Fueling SC-20

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## **Quality Assurance and Record Keeping**

- ❑ Keep accurate maintenance logs that document minimum BMP activities performed for vehicle and equipment fueling, quantities of materials removed, and improvement actions.
- ❑ Keep accurate logs of spill response actions that document what types of liquids were spilled, how it was cleaned up, and how the waste was disposed.
- ❑ Establish procedures to complete logs and file them in the central office.

## **Potential Capital Facility Costs and Operation & Maintenance Requirements**

### ***Facilities***

- ❑ The retrofitting of existing fueling areas to minimize stormwater exposure or spill runoff can be expensive. Good design must occur during the initial installation. Extruded curb along the “upstream” side of the fueling area to prevent stormwater run-on is of modest cost.
- ❑ Capital investments will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.

### ***Maintenance***

- ❑ Most of the operations and maintenance activities associated with implementing this BMP are integrally linked to routine operations as previously described. Therefore additional O&M is not required.
- ❑ For facilities responsible for pre-treating their wastewater prior to discharging, the proper functioning of structural treatment system is an important maintenance consideration.
- ❑ Routine cleanout of sumps and oil/water separators is required for the devices to maintain their effectiveness, usually at least once a month. During periods of heavy rainfall, cleanout is required more often to ensure pollutants are not washed through the system. Sediment removal is also required on a regular basis to keep the device working efficiently.

## **Supplemental Information**

### ***Designing New Installations***

The elements listed below should be included in the design and construction of new or substantially remodeled facilities.

### ***Fuel Dispensing Areas***

- ❑ Fuel dispensing areas must be paved with Portland cement concrete (or, equivalent smooth impervious surface), with a 2 to 4% slope to prevent ponding, and must be

# Vehicle and Equipment Fueling SC-20

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separated from the rest of the site by a grade break that prevents run-on of stormwater to the extent practicable. The fuel dispensing area is defined as extending 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus 1 foot, whichever is less. The paving around the fuel dispensing area may exceed the minimum dimensions of the "fuel dispensing area" stated above.

- ❑ The fuel dispensing area must be covered, and the cover's minimum dimensions must be equal to or greater than the area within the grade break or the fuel dispensing area, as defined above. The cover must not drain onto the fuel dispensing area.
- ❑ If necessary, install and maintain an oil control device in the appropriate catch basin(s) to treat runoff from the fueling area.

## *Outdoor Waste Receptacle Area*

- ❑ Grade and pave the outdoor waste receptacle area to prevent run-on of stormwater to the extent practicable.

## *Air/Water Supply Area*

- ❑ Grade and pave the air/water supply area to prevent run-on of stormwater to the extent practicable.

## *Designated Fueling Area*

- ❑ If your facility has large numbers of mobile equipment working throughout the site and you currently fuel them with a mobile fuel truck, consider establishing a designated fueling area. With the exception of tracked equipment such as bulldozers and perhaps small forklifts, most vehicles should be able to travel to a designated area with little lost time. Place temporary "caps" over nearby catch basins or manhole covers so that if a spill occurs it is prevented from entering the storm drain.

## **Examples**

The Spill Prevention Control and Countermeasure (SPCC) Plan, which is required by law for some facilities, is an effective program to reduce the number of accidental spills and minimize contamination of stormwater runoff.

The City of Palo Alto has an effective program for commercial vehicle service facilities. Many of the program's elements, including specific BMP guidance and lists of equipment suppliers, are also applicable to industrial facilities.

## **References and Resources**

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at:  
<http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities>.



# Vehicle and Equipment Fueling SC-20

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Oregon Department of Environmental Quality, 2013. *Industrial Stormwater Best Management Practices Manual- BMP 8 Vehicle, Pavement and Building Washing*. Available online at: <http://www.deq.state.or.us/wq/wqpermit/docs/IndBMP021413.pdf>

Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at: <http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf>.

Sacramento County Environmental Management Stormwater Program: Best Management Practices –Vehicle Washing. Available online at: <http://www.emd.saccounty.net/EnvHealth/Stormwater/Stormwater-BMPs.html>.

Santa Clara Valley Urban Runoff Pollution Prevention Program. <http://www.scvurppp-w2k.com/>.

US EPA. National Pollutant Discharge Elimination System – Stormwater Menu of BMPs - Municipal Vehicle and Equipment Washing, Available online at: <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=132>.

Washington State Department of Ecology, 2012. *Vehicle and Equipment Washwater Discharges Best Management Practices Manual*. Publication no. WQ-R-95-056. Available online at: <https://fortress.wa.gov/ecy/publications/publications/95056.pdf>.

# Vehicle and Equipment Cleaning SC-21

## Description

Wash water from vehicle and equipment cleaning activities performed outdoors or in areas where wash water flows onto the ground can contribute toxic hydrocarbons and other organic compounds, oils and greases, nutrients, phosphates, heavy metals, and suspended solids to stormwater runoff. Use of the procedures outlined below can prevent or reduce the discharge of pollutants to stormwater during vehicle and equipment cleaning.

## Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives

### General Pollution Prevention Protocols

- ☐ If possible, use properly maintained off-site commercial washing and steam cleaning businesses whenever possible. These businesses are better equipped to handle and properly dispose of the wash waters.
- ☐ Use dry cleaning methods to remove debris and sweep area; avoid washing with water when possible.
- ☐ Good housekeeping practices can minimize the risk of contamination from wash water discharges.
- ☐ Use biodegradable, phosphate-free detergents for washing vehicles as appropriate
- ☐ Emphasize the connection between the storm drain system and runoff, help reinforce that vehicle and equipment washing activities affect local water quality through storm drain stenciling programs.

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Targeted Constituents

Sediment	✓
Nutrients	✓
Trash	
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓

## Minimum BMPs Addressed

	Good Housekeeping	✓
	Preventative Maintenance	✓
	Spill and Leak Prevention and Response	✓
	Material Handling & Waste Management	✓
	Erosion and Sediment Controls	
	Employee Training Program	✓
	Quality Assurance Record Keeping	✓



# Vehicle and Equipment Cleaning SC-21

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- ☐ Map on-site storm drain locations to avoid discharges to the storm drain system.
- ☐ Designate specific wash area with clarifier or place wash areas away from storm drain connections.



## ***Good Housekeeping***

- ☐ Mark the area clearly as a wash area by:
  - ✓ Posting signs stating that only washing is allowed in wash area; and
  - ✓ Providing information on how washing is to be done.
- ☐ Provide trash containers in wash area.
- ☐ Have all vehicle and equipment washing done in areas designed to collect and hold the wash and rinse water or effluent generated. Recycle, collect or treat wash water effluent prior to discharge to the sanitary sewer system.
- ☐ If washing/cleaning must occur on-site, consider washing vehicles and equipment inside the building or on an impervious surface to control the targeted constituents by directing them to the sanitary sewer.
- ☐ If washing must occur on-site and outdoor:
  - ✓ Use designated paved wash areas. This area must be covered or bermed to collect the wash water and graded to direct the wash water to a treatment or disposal facility.
  - ✓ Do not conduct oil changes and other engine maintenance in the designated washing area. Perform these activities in a place designated for oil change and maintenance activities.
  - ✓ Cover the wash area when not in use to prevent contact with rain water.
- ☐ Do not permit steam cleaning wash water to enter the storm drain system.
- ☐ If possible, conduct pressure and steam cleaning at appropriate off-site areas to avoid generating runoff with high pollutant concentrations.



## ***Preventative Maintenance***

- ☐ Install sumps or drain lines to collect wash water for treatment.
- ☐ Use hoses with nozzles that automatically turn off when left unattended.
- ☐ Perform routine inspections of drain lines, holding tanks, and hoses and repair leaks immediately.



# Vehicle and Equipment Cleaning SC-21

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- ❑ Perform routine inspection and maintenance of wash water recycling and treatment systems.



## ***Spill Response and Prevention Procedures***

- ❑ Keep the spill prevention and control plan up-to-date.
- ❑ Have an emergency plan, equipment, and trained personnel ready at all times to deal immediately with major spills.
- ❑ Collect all spilled liquids and properly dispose of them.
- ❑ Store and maintain appropriate spill cleanup materials in a location known to all near the designated wash area.



## ***Material Handling and Waste Management***

- ❑ Collect all wash water from vehicle and equipment cleaning operations. Consider treating and reusing or discharging wash waters to a sanitary sewer system.
- ❑ Large quantities of wash waters may require treatment at the facility. Treatment using a process treatment system (e.g., holding tank, filtration system, and related appurtenances) will require engineering and capital expenditures.
- ❑ Collect and treat small amounts of wash water at the facility and either recycle or discharge to the sanitary sewer system or collect and dispose of as an industrial waste.
- ❑ Discharge wash waters into sanitary sewer only after contacting local sewer authority to find out if pretreatment is required.



## ***Employee Training Program***

- ❑ Train employees on proper cleaning and wash water disposal procedures and conduct “refresher” courses on a regular basis.
- ❑ Train staff on proper maintenance measures for the wash area.
- ❑ Train employees and contractors on proper spill containment and cleanup. The employee should have the tools and knowledge to immediately begin cleaning up a spill should one occur.
- ❑ Use a training log or similar method to document training.



## ***Quality Assurance and Record Keeping***

- ❑ Keep accurate maintenance/inspection logs that document the minimum BMP activities performed for vehicle and equipment cleaning activities and improvement actions.



# **Vehicle and Equipment Cleaning SC-21**

- ❑ Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- ❑ Establish procedures to complete logs and file them in the central office.

## **Other Facility-Specific Considerations**

- ❑ Some municipalities may require pretreatment and monitoring of wash water discharges to the sanitary sewer.
- ❑ Steam cleaning can generate significant pollutant concentrations requiring that careful consideration be given to the environmental impacts and compliance issues related to the condensate wastewater generated.

## **Potential Limitations and Work-Arounds**

Some facilities may have space constraints, limited staffing and time limitations that may preclude implementation of certain BMPs. Provided below are typical limitations and recommended “work-arounds”:

- ❑ Most car washing best management practices are inexpensive, and rely more on good housekeeping practices (where vehicles are washed, planning for the collection of wash water) than on expensive technology. However, the construction of a specialized area for vehicle washing can be expensive. Also, for facilities that cannot recycle their wash water, the cost of pre-treating wash water through either structural practices or planning for collection and hauling of contaminated water to sewage treatment plants can be cost-prohibitive.
- ❑ A potential work-around is to use properly maintained off-site commercial washing and steam cleaning businesses whenever possible.

## **Potential Capital Facility Costs and Operation & Maintenance Requirements**

### ***Facilities***

- ❑ Many facilities will already have indoor covered areas where vehicle and equipment cleaning takes place and will require no additional capital expenditures for providing cover.
- ❑ Capital investments will be required at some sites if systems to collect and recycle/treat and properly discharge wash water are not in place. The cost associated with these investments will vary depending on the size of the washing facility and local regulations regarding effluent wash water.

### ***Maintenance***

- ❑ Perform wash and collection system inspections and repair.
- ❑ Sweep washing areas frequently to remove solid debris.

# **Vehicle and Equipment Cleaning SC-21**

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- Repair berms and dikes as necessary.
- Inspect and maintain sumps, oil/water separators, and on-site treatment/recycling units.

## **Supplemental Information**

### ***Designated Cleaning Areas***

- Washing operations outside should be conducted in a designated wash area having the following characteristics:
  - ✓ Paved with Portland cement concrete
  - ✓ Covered and bermed to prevent contact with stormwater and contain wash water
  - ✓ Sloped for wash water collections
  - ✓ Drainage system for wash water to the sanitary or recycle treatment process waste sewer, or to a dead-end sump equipped with an oil/water separator if necessary.

## **References and Resources**

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at:  
<http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities>.

Oregon Department of Environmental Quality, 2013. *Industrial Stormwater Best Management Practices Manual- BMP 8 Vehicle, Pavement and Building Washing*. Available online at: <http://www.deq.state.or.us/wq/wqpermit/docs/IndBMP021413.pdf>.

Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at:  
<http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf>.

Sacramento County Environmental Management Stormwater Program: Best Management Practices –Vehicle Washing. Available online at:  
<http://www.emd.saccounty.net/EnvHealth/Stormwater/Stormwater-BMPs.html>.

Santa Clara Valley Urban Runoff Pollution Prevention Program. <http://www.scvurppp-w2k.com/>.

US EPA. National Pollutant Discharge Elimination System – Stormwater Menu of BMPs - Municipal Vehicle and Equipment Washing. Available online at:  
<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=132>.

# **Vehicle and Equipment Cleaning SC-21**

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Washington State Department of Ecology, 2012 .*Vehicle and Equipment Washwater Discharges Best Management Practices Manual*. Publication no. WQ-R-95-056.  
Available online at: <https://fortress.wa.gov/ecy/publications/publications/95056.pdf>.

# Vehicle and Equipment Repair SC-22

## Description

Vehicle or equipment maintenance and repair are potentially significant sources of stormwater pollution, due to use of harmful materials and wastes during maintenance and repair processes. Engine repair and service (e.g., parts cleaning), replacement of fluids (e.g., oil change), and outdoor equipment storage and parking (leaking vehicles) can impact water quality if stormwater runoff from areas with these activities becomes polluted by a variety of contaminants. Implementation of the following activities must be done where applicable to prevent or reduce the discharge of pollutants to stormwater from vehicle and equipment maintenance and repair activities.

## Approach

The BMP approach is to reduce the potential for pollutant discharges through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives. General pollution prevention protocols are presented followed by applicable minimum BMPs as required by the Industrial General Permit.

### General Pollution Prevention Protocols

- ☐ Designate a vehicle maintenance area designed to prevent stormwater pollution.
- ☐ Minimize contact of stormwater with outside operations through berming and appropriate drainage routing.
- ☐ Keep accurate maintenance logs to evaluate materials removed and improvements made.
- ☐ Switch to non-toxic chemicals for maintenance when possible.
- ☐ Choose cleaning agents that can be recycled.
- ☐ Use drop cloths and drip pans.

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Targeted Constituents

*Sediment*

*Nutrients*

*Trash*

*Metals*

✓

*Bacteria*

*Oil and Grease*

✓

*Organics*

✓

## Minimum BMPs Covered

	<i>Good Housekeeping</i>	✓
	<i>Preventative Maintenance</i>	✓
	<i>Spill and Leak Prevention and Response</i>	✓
	<i>Material Handling &amp; Waste Management</i>	✓
	<i>Erosion and Sediment Controls</i>	
	<i>Employee Training Program</i>	✓
	<i>Quality Assurance Record Keeping</i>	✓





# Vehicle and Equipment Repair SC-22

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- ☐ Minimize use of solvents. Clean parts without using solvents whenever possible, or use water-based solvents for cleaning.
- ☐ Recycle used motor oil, diesel oil, and other vehicle fluids and parts whenever possible.

## ***Operational Protocols***

### *General*

- ☐ Move maintenance and repair activities indoors whenever feasible.
- ☐ Place curbs around the immediate boundaries of process equipment.



### ***Good Housekeeping***

- ☐ Store idle equipment under cover
- ☐ Use a vehicle maintenance area designed to prevent stormwater pollution - minimize contact of stormwater with outside operations through berming and appropriate drainage routing.
- ☐ Avoid hosing down your work areas. If work areas are washed, collect and direct wash water to sanitary sewer. Use dry sweeping if possible.
- ☐ Paint signs on storm drain inlets to indicate that they are not to receive liquid or solid wastes.
- ☐ Post signs at sinks to remind employees not to pour wastes down drains.
- ☐ Clean yard storm drain inlets(s) regularly and especially after large storms.
- ☐ Do not pour materials down storm drains.
- ☐ Cover the work area to limit exposure to rain.
- ☐ Place curbs around the immediate boundaries of process equipment.
- ☐ Build a shed or temporary roof over areas where parked cars await repair or salvage, especially wrecked vehicles. Build a roof over vehicles kept for parts.



### ***Preventive Maintenance and Repair Activities***

- ☐ Provide a designated area for vehicle maintenance.
- ☐ Inspect vehicles and equipment for leaks regularly and repair immediately.
- ☐ Make sure incoming vehicles are checked for leaking oil and fluids. Do not allow leaking vehicles or equipment on-site without correcting the source of the leak and cleaning up any spill.
- ☐ Keep equipment clean; don't allow excessive build-up of oil and grease.

# Vehicle and Equipment Repair SC-22

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- Perform all vehicle fluid removal or changing inside or under cover if possible to prevent the run-on of stormwater and the runoff of spills.
- Use a tarp, ground cloth, or drip pans beneath the vehicle or equipment to capture all spills and drips if temporary work is being conducted outside. Collected drips and spills must be disposed, reused, or recycled properly.
- It is important to sweep the maintenance area weekly, if it is paved, to collect loose particles, and wipe up spills with rags and other absorbent material immediately. Do not hose down the area to a storm drain.
- Establish standard procedures to prevent spillage/leakage of fluids including:
  - ✓ Keep a drip pan under the vehicle while you unclip hoses, unscrew filters, or remove other parts. Use a drip pan under any vehicle that might leak while working on it to keep splatters or drips off the shop floor.
  - ✓ Promptly transfer used fluids to the proper waste or recycling drums. Do not leave drip pans or other open containers lying around.
  - ✓ Keep drip pans or containers under vehicles or equipment that may drip during repairs.
  - ✓ Do not change motor oil or perform equipment maintenance in non-appropriate areas.
- Drain oil and other fluids first if the vehicle or equipment is to be stored outdoors. Elevate and tarp stored vehicles and equipment.
- Monitor parked vehicles closely for leaks. Pans should be placed under any leaks to collect the fluids for proper disposal or recycling.
- Mechanics should clean vehicle parts without using liquid cleaners wherever possible to reduce waste.
- Steam cleaning and pressure washing may be used instead of solvent parts cleaning. The wastewater generated from steam cleaning must be discharged to an on-site oil water separator that is connected to a sanitary sewer or blind sump. Non-caustic detergents should be used instead of caustic cleaning agents, detergent-based or water-based cleaning systems in place of organic solvent degreasers, and non-chlorinated solvent in place of chlorinated organic solvents for parts cleaning. Refer to SC21 for more information on steam cleaning.
- Fifth-wheel bearings on trucks require routine lubrication. Typically chassis grease is applied to the fifth-wheel bearing at rates that result in grease dripping off of the bearing into the environment. To address this concern the following options are available:
  - ✓ Use specialized lubricants with good adhesion (e.g., stay in place) properties. Carefully follow manufacturer's label regarding the use of adhesive lubricant for

truck fifth-wheels. Typically this means applying no more than 8 oz. of grease. No visible extrusion of lubricant from the fifth-wheel bearing when truck and trailer are connected should be present.

- ✓ Use on-board truck or on-board trailer automatic lubrication systems. If these systems apply lube thinner than National Grease Lubrication Institute #2, equipment for collection of used lubricant is needed to prevent excess lubricant from dripping off the truck.
- ✓ Use plastic or Teflon plates instead of grease or other lubricants. Carefully follow manufacturer's instructions for installation and operation.
- Use one of the following for lubricating vehicle-trailer coupling:
  - ✓ Specialized adhesive lubricants;
  - ✓ Grease-free fifth wheel slip plates (e.g., plastic or Teflon coatings); and
  - ✓ On-Board automatic lubricating systems.



## ***Spill and Leak Prevention and Response Procedures***

- Keep your spill prevention and control plan up-to-date.
- Place an adequate stockpile of spill cleanup materials where it will be readily accessible.
- Clean leaks, drips, and other spills with as little water as possible. Use rags for small spills, a damp mop for general cleanup, and dry absorbent material for larger spills. Use the following three-step method for cleaning floors:
  - ✓ Clean spills with rags or other absorbent materials;
  - ✓ Sweep floor using dry absorbent material; and
  - ✓ Mop the floor.

Mop water may be discharged to the sanitary sewer via a toilet or sink.

- Remove the adsorbent materials promptly and dispose of properly when using adsorbent materials on small spills.



## ***Material Handling and Waste Management***

- Designate a special area to drain and replace motor oil, coolant, and other fluids, where there are no connections to the storm drain or the sanitary sewer, and drips and spills can be easily cleaned up.
- Drain all fluids immediately from wrecked vehicles. Ensure that the drain pan or drip pan is large enough to contain drained fluids (e.g., larger pans are needed to contain antifreeze, which may gush from some vehicles).



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- ☐ Do not pour liquid waste to floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections.
- ☐ Do not put used or leftover cleaning solutions, solvents, and automotive fluids and in the sanitary sewer.
- ☐ Collect leaking or dripping fluids in drip pans or containers. Fluids are easier to recycle if kept separate.
- ☐ Promptly transfer used fluids to the proper waste or recycling drums. Do not leave drip pans or other open containers lying around.
- ☐ Place oil filter in a funnel over a waste oil recycling drum to drain excess oil before disposal since municipalities prohibit or discourage disposal of these items in solid waste facilities.
- ☐ Oil filters can also be recycled. Ask your oil supplier or recycler about recycling oil filters. Oil filters disposed of in trashcans or dumpsters can leak oil and contaminate stormwater.
- ☐ Store cracked batteries in a non-leaking secondary container and dispose of properly at recycling or household hazardous waste facilities.



## ***Employee Training Program***

- ☐ Train employees and contractors in the proper handling and disposal of engine fluids and waste materials.
- ☐ Employees should have the tools and knowledge to immediately begin cleaning up a spill should one occur.
- ☐ Conduct annual training to ensure that employees are familiar with the facility's spill control plan and/or proper spill cleanup procedures (You can use reusable cloth rags to clean up small drips and spills instead of disposables; these can be washed by a permitted industrial laundry. Do not clean them at home or at a coin-operated laundry business).
- ☐ Use a training log or similar method to document training.



## ***Quality Assurance and Recordkeeping***

- ☐ Keep accurate maintenance logs to evaluate materials removed and improvements made.
- ☐ Establish procedures to collect and file maintenance logs in the central office.



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## ***Other Facility-Specific Considerations***

### ***Parts Cleaning***

Vehicle and equipment maintenance facilities often must clean parts as a part of day-to-day operations. The following activities should be considered:

- Clean vehicle parts without using liquid cleaners wherever possible to reduce waste.
- Steam cleaning and pressure washing may be used instead of solvent parts cleaning.
- Wastewater generated from steam cleaning must be discharged to an on-site oil water separator that is connected to a sanitary sewer or blind sump.
- Use non-caustic detergents instead of caustic cleaning agents, detergent-based or water-based cleaning systems in place of organic solvent degreasers, and non-chlorinated solvent in place of chlorinated organic solvents for parts cleaning. Refer to SC21 for more information on steam cleaning.

## ***Potential Limitations and Work-Arounds***

- Some facilities may have space constraints and time limitations that may preclude all work from being conducted indoors.
  - ✓ Designate specific areas for outdoor activities.
  - ✓ Require employees to understand and follow preventive maintenance and spill and leak prevention BMPs.
- It may not be possible to contain and clean up spills from vehicles/equipment brought on-site after working hours.
  - ✓ Provide a designated area for afterhours deliveries.
  - ✓ Install spill kits.
- Drain pans (usually 1 ft. x 1 ft.) are generally too small to contain antifreeze
  - ✓ Purchase or fabricate large drip pans (3 ft. x 3 ft.) with sufficient volume to contain expected quantities of liquids based on equipment/vehicle specifications.
- Dry floor cleaning methods may not be sufficient for some spills.
  - ✓ Use three-step method instead.
- Identification of engine leaks may require some use of solvents.
  - ✓ Minimize the use of solvents and use drip pans to collect spills and leaks.
- Prices for recycled materials and fluids may be higher than those of non-recycled materials.

# Vehicle and Equipment Repair SC-22

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- Some facilities may be limited by a lack of providers of recycled materials, and by the absence of businesses to provide services such as hazardous waste removal, structural treatment practice maintenance, or solvent equipment and solvent recycling.

## Potential Facilities and Maintenance Requirements

### *Facilities Requirements*

- For facilities that already have covered areas where maintenance takes place, have berms or other means to retain spills and leaks, and/ have other appropriate constructed systems for containment, there may not need to be any significant new capital investment. Capital costs will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.



### *Maintenance Requirements*

- Most of the operations and maintenance activity associated with implementing this BMP are integrally linked to routine operations as previously described. Therefore, significant additional operations and maintenance efforts are not likely to be required.
- For facilities responsible for pre-treating their wastewater prior to discharging, the proper functioning of structural treatment system is an important maintenance consideration. Routine cleanout of oil and grease is required for the devices to maintain their effectiveness, usually at least once a month. During periods of heavy rainfall, cleanout is required more often to ensure pollutants are not washed through the trap. Sediment removal is also required on a regular basis to keep the device working efficiently.
- It is important to sweep the maintenance area weekly, if it is paved, to collect loose particles, and wipe up spills with rags and other absorbent material immediately. Do not hose down the area to a storm drain.

## Supplemental Information

### *Waste Reduction*

Parts are often cleaned using solvents such as trichloroethylene, 1,1,1-trichloroethane or methylene chloride. Many of these cleaners are harmful and must be disposed of as a hazardous waste. Cleaning without using liquid cleaners (e.g., wire brush) whenever possible reduces waste. Prevent spills and drips of solvents and cleansers to the shop floor. Do all liquid cleaning at a centralized station so the solvents and residues stay in one area. Locate drip pans, drain boards, and drying racks to direct drips back into a solvent sink or fluid holding tank for reuse. Reducing the number of solvents makes recycling easier and reduces hazardous waste management costs. Often, one solvent can perform a job as well as two different solvents.

- Clean parts without using liquid cleaners whenever possible to reduce waste.
- Prevent spills and drips of solvents and cleansers to the shop floor.

# Vehicle and Equipment Repair SC-22

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- ☐ Do all liquid cleaning at a centralized station so the solvents and residues stay in one area.
- ☐ Locate drip pans, drain boards, and drying racks to direct drips back into a solvent sink or fluid holding tank for reuse.

## ***Recycling***

Separating wastes allows for easier recycling and may reduce treatment costs. Keep hazardous and non-hazardous wastes separate, do not mix used oil and solvents, and keep chlorinated solvents (e.g., 1,1,1-trichloroethane) separate from non-chlorinated solvents (e.g., kerosene and mineral spirits).

Many products made of recycled (i.e., refined or purified) materials are available. Engine oil, transmission fluid, antifreeze, and hydraulic fluid are available in recycled form. Buying recycled products supports the market for recycled materials.

- ☐ Recycling is always preferable to disposal of unwanted materials.
- ☐ Separate wastes for easier recycling. Keep hazardous and non-hazardous wastes separate, do not mix used oil and solvents, and keep chlorinated solvents separate from non-chlorinated solvents.
- ☐ Label and track the recycling of waste material (e.g., used oil, spent solvents, batteries).
- ☐ Purchase recycled products to support the market for recycled materials.

## ***Safer Alternatives***

If possible, eliminate or reduce the amount of hazardous materials and waste by substituting non-hazardous or less hazardous material:

- ☐ Use non-caustic detergents instead of caustic cleaning for parts cleaning.
- ☐ Use detergent-based or water-based cleaning systems in place of organic solvent degreasers. Wash water may require treatment before it can be discharged to the sewer.
- ☐ Replace chlorinated organic solvents with non-chlorinated solvents. Non-chlorinated solvents like kerosene or mineral spirits are less toxic and less expensive to dispose of properly. Check list of active ingredients to see whether it contains chlorinated solvents.
- ☐ Choose cleaning agents that can be recycled.

## **References and Resources**

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at:

<http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities>.

# Vehicle and Equipment Repair SC-22

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Oregon Department of Environmental Quality, 2013. *Industrial Stormwater Best Management Practices Manual- BMP 8 Vehicle, Pavement and Building Washing*. Available online at: <http://www.deq.state.or.us/wq/wqpermit/docs/IndBMP021413.pdf>.

Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at: <http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf>.

Sacramento County Environmental Management Stormwater Program: Best Management Practices –Vehicle Washing. Available online at: <http://www.emd.saccounty.net/EnvHealth/Stormwater/Stormwater-BMPs.html>.

Santa Clara Valley Urban Runoff Pollution Prevention Program <http://www.scvurppp-w2k.com/>.

US EPA, National Pollutant Discharge Elimination System – Stormwater Menu of BMPs - Municipal Vehicle and Equipment Washing. Available online at: <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=132>.

Washington State Department of Ecology, 2012. *Vehicle and Equipment Washwater Discharges Best Management Practices Manual*. Publication no. WQ-R-95-056. Available online at: <https://fortress.wa.gov/ecy/publications/publications/95056.pdf>.



James Tolar

**From:** Tyler's Donuts <messenger@messaging.squareup.com>  
**Sent:** Friday, April 26, 2024 8:28 AM  
**To:** James Tolar  
**Subject:** Receipt from Tyler's Donuts

Now when you shop at sellers who use Square, your receipts will be delivered automatically.

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Tyler's Donuts




Let Tyler's Donuts know how your experience was

\$12.20

Custom Amount	\$11.20
Purchase Subtotal	\$11.20
Tip	\$1.00
<b>Total</b>	<b>\$12.20</b>

Tyler's Donuts

Visa 1643 (Contactless)	Apr 26
	2024

## Description

The loading/unloading of materials usually takes place outside on docks or terminals; therefore, materials spilled, leaked, or lost during loading/unloading may collect in the soil or on other surfaces and have the potential to be carried away by wind, stormwater runoff or when the area is cleaned. Additionally, rainfall may wash pollutants from machinery used to unload or move materials. Implementation of the following protocols will prevent or reduce the discharge of pollutants to stormwater from outdoor loading/unloading of materials.

## Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

## General Pollution Prevention Protocols

- ☐ Park tank trucks or delivery vehicles in designated areas so that spills or leaks can be contained.
- ☐ Limit exposure of material to rainfall whenever possible.
- ☐ Prevent stormwater run-on.
- ☐ Check equipment regularly for leaks.



## Good Housekeeping

- ☐ Develop an operations plan that describes procedures for loading and/or unloading.
- ☐ Conduct loading and unloading in dry weather if possible.

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Targeted Constituents

Sediment	✓
Nutrients	✓
Trash	
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓

## Minimum BMPs Covered

	Good Housekeeping	✓
	Preventative Maintenance	
	Spill and Leak Prevention and Response	✓
	Material Handling & Waste Management	✓
	Erosion and Sediment Controls	
	Employee Training Program	✓
	Quality Assurance Record Keeping	✓





- ☐ Cover designated loading/unloading areas to reduce exposure of materials to rain.
- ☐ Consider placing a seal or door skirt between delivery vehicles and building to prevent exposure to rain.
- ☐ Design loading/unloading area to prevent stormwater run-on, which would include grading or berming the area, and position roof downspouts so they direct stormwater away from the loading/unloading areas.
- ☐ Have employees load and unload all materials and equipment in covered areas such as building overhangs at loading docks if feasible.
- ☐ Load/unload only at designated loading areas.
- ☐ Use drip pans underneath hose and pipe connections and other leak-prone spots during liquid transfer operations, and when making and breaking connections. Several drip pans should be stored in a covered location near the liquid transfer area so that they are always available, yet protected from precipitation when not in use. Drip pans can be made specifically for railroad tracks. Drip pans must be cleaned periodically, and drip collected materials must be disposed of properly.
- ☐ Pave loading areas with concrete instead of asphalt.
- ☐ Avoid placing storm drains inlets in the area.
- ☐ Grade and/or berm the loading/unloading area with drainage to sump; regularly remove materials accumulated in sump.



## ***Spill Response and Prevention Procedures***

- ☐ Keep your spill prevention and control plan up-to-date or have an emergency spill cleanup plan readily available, as applicable.
- ☐ Contain leaks during transfer.
- ☐ Store and maintain appropriate spill cleanup materials in a location that is readily accessible and known to all employees.
- ☐ Ensure that employees are familiar with the site's spill control plan and proper spill cleanup procedures.
- ☐ Use drip pans or comparable devices when transferring oils, solvents, and paints.



## ***Material Handling and Waste Management***

- ☐ Spot clean leaks and drips routinely to prevent runoff of spillage.
- ☐ Do not pour liquid wastes into floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections.

- ☐ Do not put used or leftover cleaning solutions, solvents, and automotive fluids in the storm drain or sanitary sewer.
- ☐ Collect leaking or dripping fluids in drip pans or containers. Fluids are easier to recycle if kept separate.
- ☐ Promptly transfer used fluids to the proper waste or recycling drums. Do not leave drip pans or other open containers lying around.
- ☐ Minimize the possibility of stormwater pollution from outside waste receptacles by doing at least one of the following:
  - ✓ Use only watertight waste receptacle(s) and keep the lid(s) closed.
  - ✓ Grade and pave the waste receptacle area to prevent run-on of stormwater.
  - ✓ Install a roof over the waste receptacle area.
  - ✓ Install a low containment berm around the waste receptacle area.
  - ✓ Use and maintain drip pans under waste receptacles.
- ☐ Post “no littering” signs.
- ☐ Perform work area clean-up and dry sweep after daily operations.



## ***Employee Training Program***

- ☐ Train employees (e.g., fork lift operators) and contractors on proper spill containment and cleanup.
- ☐ Have employees trained in spill containment and cleanup present during loading/unloading.
- ☐ Train employees in proper handling techniques during liquid transfers to avoid spills.
- ☐ Make sure forklift operators are properly trained on loading and unloading procedures.



## ***Quality Assurance and Record Keeping***

- ☐ Keep accurate maintenance logs that document activities performed, quantities of materials removed, and improvement actions.
- ☐ Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- ☐ Establish procedures to complete logs and file them in the central office.
- ☐ Keep accurate logs of daily clean-up operations.



## Potential Limitations and Work-Arounds

Some facilities may have space constraints, limited staffing and time limitations that may preclude implementation of BMPs. Provided below are typical limitations and recommended “work-arounds.”

- ☐ Space and time limitations may preclude all transfers from being performed indoors or under cover.
  - ✓ Designate specific areas for outdoor loading and unloading.
  - ✓ Require employees to understand and follow spill and leak prevention BMPs.
- ☐ It may not be possible to conduct transfers only during dry weather.
  - ✓ Limit materials and equipment rainfall exposure to all extents practicable.
  - ✓ Require employees to understand and follow spill and leak prevention BMPs.

## Potential Capital Facility Costs and Operation & Maintenance Requirements

### *Facilities*

Many facilities will already have indoor or covered areas where loading/unloading takes place and will require no additional capital expenditures.

If outdoor activities are required, construction of berms or other means to retain spills and leaks may require appropriate constructed systems for containment. These containment areas may require significant new capital investment.

Capital investments will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.

### *Maintenance*

Most of the operations and maintenance activities associated with implementing this BMP are integrally linked to routine operations as previously described. Therefore additional O&M is not required.

- ☐ Conduct regular inspections and make repairs and improvements as necessary.
- ☐ Check loading and unloading equipment regularly for leaks.
- ☐ Conduct regular broom dry-sweeping of area. Do not wash with water.

## Supplemental Information

### *Loading and Unloading of Liquids*

- ☐ Loading or unloading of liquids should occur in the manufacturing building so that any spills that are not completely retained can be discharged to the sanitary sewer,

treatment plant, or treated in a manner consistent with local sewer authorities and permit requirements.

- For loading and unloading tank trucks to above and below ground storage tanks, the following procedures should be used:
  - ✓ The area where the transfer takes place should be paved. If the liquid is reactive with the asphalt, Portland cement should be used to pave the area.
  - ✓ The transfer area should be designed to prevent run-on of stormwater from adjacent areas. Sloping the pad and using a curb, like a speed bump, around the uphill side of the transfer area should reduce run-on.
  - ✓ The transfer area should be designed to prevent runoff of spilled liquids from the area. Sloping the area to a drain should prevent runoff. The drain should be connected to a dead-end sump or to the sanitary sewer. A positive control valve should be installed on the drain.
- For transfer from rail cars to storage tanks that must occur outside, use the following procedures:
  - ✓ Drip pans should be placed at locations where spillage may occur, such as hose connections, hose reels, and filler nozzles. Use drip pans when making and breaking connections.
  - ✓ Drip pan systems should be installed between the rails to collect spillage from tank cars.

## References and Resources

Minnesota Pollution Control Agency, *Industrial Stormwater Best Management Practices Guidebook BMP 26 Fueling and Liquid Loading/Unloading Operations*. Available online at: <http://www.pca.state.mn.us/index.php/view-document.html?gid=10557>.

New Jersey Department of Environmental Protection, 2013. *Basic Industrial Stormwater General Permit Guidance Document NJPDES General Permit No NJ0088315*. Available online at: [http://www.nj.gov/dep/dwq/pdf/5G2\\_guidance\\_color.pdf](http://www.nj.gov/dep/dwq/pdf/5G2_guidance_color.pdf).

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: <http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities>.

Oregon Department of Environmental Quality, 2013. *Industrial Stormwater Best Management Practices Manual- BMP 26 Fueling and Liquid Loading/Unloading Operations*. Available online at: <http://www.deq.state.or.us/wq/wqpermit/docs/IndBMP021413.pdf>.

Sacramento Stormwater Management Program, *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at:  
<http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf>.

Sacramento County Environmental Management Stormwater Program: *Best Management Practices*. Available online at:  
<http://www.emd.saccounty.net/EnvHealth/Stormwater/Stormwater-BMPs.html>.

Santa Clara Valley Urban Runoff Pollution Prevention Program. <http://www.scvurppp-w2k.com/>.

US EPA. National Pollutant Discharge Elimination System – Industrial Fact Sheet Series for Activities Covered by EPA’s Multi Sector General Permit. Available online at:  
<http://cfpub.epa.gov/npdes/stormwater/swsectors.cfm>.

# Outdoor Liquid Container Storage SC-31

## Description

Accidental releases of materials from above ground liquid storage tanks, drums, and dumpsters present the potential for contaminating stormwater with many different pollutants. Tanks may store many potential stormwater runoff pollutants, such as gasoline, aviation gas, diesel fuel, kerosene, oils, greases, lubricants and other distilled, blended and refined products derived from crude petroleum. Materials spilled, leaked, or lost from storage tanks may accumulate in soils or on other surfaces and be carried away by rainfall runoff. These source controls apply to containers located outside of a building used to temporarily store liquid materials and include installing safeguards against accidental releases, installing secondary containment, conducting regular inspections, and training employees in standard operating procedures and spill cleanup techniques.

## Approach

### General Pollution Prevention Protocols

- ☐ Educate employees about pollution prevention measures and goals.
- ☐ Keep an accurate, up-to-date inventory of the materials delivered and stored on-site.
- ☐ Try to keep chemicals in their original containers, and keep them well labeled.
- ☐ Develop an operations plan that describes procedures for loading and/or unloading. Refer to SC-30 Outdoor Loading/Unloading of Materials for more detailed BMP information pertaining to loading and unloading of liquids.
- ☐ Protect materials from rainfall, run-on, runoff, and wind dispersal:
  - ✓ Cover the storage area with a roof.

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize

## Targeted Constituents

Sediment	
Nutrients	✓
Trash	
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓

## Minimum BMPs Covered

	Good Housekeeping	
	Preventative Maintenance	✓
	Spill and Leak Prevention and Response	✓
	Material Handling & Waste Management	✓
	Erosion and Sediment Controls	
	Employee Training Program	✓
	Quality Assurance Record Keeping	✓





# Outdoor Liquid Container Storage SC-31

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- ✓ Minimize stormwater run-on by enclosing the area or building a berm around it.
- ✓ Use a walled structure for storage of liquid containers.
- ✓ Use only watertight containers and keep the lids closed.
- Employ safeguards against accidental releases:
  - ✓ Provide overflow protection devices to warn operator or automatic shutdown transfer pumps.
  - ✓ Provide protection guards (bollards) around tanks and piping to prevent damage from a vehicle or forklift.
  - ✓ Provide clear tagging or labeling, and restrict access to valves to reduce human error.
  - ✓ Berm or surround tank or container with secondary containment system, including dikes, liners, vaults, or double walled tanks.
  - ✓ Be aware and ready to address the fact that some municipalities require secondary containment areas to be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.
  - ✓ Contact the appropriate regulatory agency regarding environmental compliance for facilities with “spill ponds” designed to intercept, treat, and/or divert spills.
  - ✓ Have registered and specifically trained professional engineers identify and correct potential problems such as loose fittings, poor welding, and improper or poorly fitted gaskets for newly installed tank systems.
- Use MSDSs to ID hazardous components and keep incompatible products apart and to list/have available appropriate PPE and clean-up products.



## **Good Housekeeping**

- Provide storage tank piping located below product level with a shut-off valve at the tank; ideally this valve should be an automatic shear valve with the shut-off located inside the tank.
- Provide barriers such as posts or guardrails, where tanks are exposed, to prevent collision damage with vehicles.
- Provide secure storage to prevent vandalism-caused contamination.
- Place tight-fitting lids on containers.

# Outdoor Liquid Container Storage **SC-31**

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- ☐ Enclose or cover the containers where they are stored.
- ☐ Raise the containers off the ground by use of pallet or similar method, with provisions for spill control.
- ☐ Do not store liquid containers near the storm drainage system or surface waters.
- ☐ Sweep and clean the storage area regularly if it is paved, do not hose down the area to a storm drain.



## ***Preventative Maintenance***

- ☐ Inspect storage areas regularly for leaks or spills.
- ☐ Conduct routine inspections and check for external corrosion of material containers. Also check for structural failure, spills and overfills due to operator error, failure of piping system.
- ☐ Check for leaks or spills during pumping of liquids or gases from truck or rail car to a storage facility or vice versa.
- ☐ Visually inspect new tank or container installations for loose fittings, poor welding, and improper or poorly fitted gaskets.
- ☐ Inspect tank foundations, connections, coatings, and tank walls and piping system. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.
- ☐ Replace containers that are leaking, corroded, or otherwise deteriorating with ones in good condition. If the liquid chemicals are corrosive, containers made of compatible materials must be used instead of metal drums.
- ☐ New or secondary containers must be labeled with the product name and hazards.



## ***Spill Response and Prevention Procedures***

- ☐ Keep your spill prevention and control plan up-to-date.
- ☐ Maintain an adequate stockpile of spill cleanup materials at locations where it will be readily accessible.
- ☐ Have an emergency plan, equipment, and trained personnel ready at all times to deal immediately with major spills.
- ☐ Collect spilled liquids and properly dispose of them.
- ☐ Remove the adsorbent materials promptly and dispose of properly when using adsorbent materials on small spills.
- ☐ Have employees trained in emergency spill cleanup procedures present when dangerous waste, liquid chemicals, or other wastes are delivered.



# Outdoor Liquid Container Storage SC-31

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- ❑ Prevent operator errors by using engineering safeguards and thus reducing accidental releases of pollutants.



## ***Material Handling and Waste Management***

- ❑ Contain the material in such a manner that if the container leaks or spills, the contents will not discharge, flow, or be washed into the storm drainage system, surface waters or groundwater.
- ❑ Place drip pans or absorbent materials beneath mounted container taps, and at potential drip and spill locations during filling and unloading of containers. Any collected liquids or soiled absorbent materials must be reused/recycled or properly disposed.
- ❑ Ensure that any underground or aboveground storage tanks are designed and managed in accordance with applicable regulations, identified as a potential pollution source, and have secondary containment such as a berm or dike with an impervious surface.
- ❑ Do not pour liquids into floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections.
- ❑ Collect leaking or dripping fluids in drip pans or containers. Fluids are easier to recycle if kept separate.
- ❑ Promptly transfer used fluids to the proper waste or recycling drums. Do not leave drip pans or other open containers lying around.



## ***Employee Training Program***

- ❑ Train employee (e.g., fork lift operators) and contractors in proper spill containment and cleanup. The employee should have the tools and knowledge to immediately begin cleaning up a spill if one should occur.
- ❑ Train employees in proper spill response and prevention, materials handling, and waste management.
- ❑ Use a training log or similar method to document training.



## ***Quality Assurance and Record Keeping***

- ❑ Keep accurate maintenance/inspection logs that document minimum BMP activities performed for liquid container storage and improvement actions.
- ❑ Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- ❑ Establish procedures to complete logs and file them in the central office.

## ***Other Facility-Specific Considerations***

- ❑ Storage sheds often must meet building and fire code requirements.

# **Outdoor Liquid Container Storage SC-31**

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- ☐ The local fire district must be consulted for limitations on clearance of roof covers over containers used to store flammable materials.
- ☐ All specific standards set by Federal and State laws concerning the storage of oil and hazardous materials must be met.
- ☐ Storage of reactive, ignitable, or flammable liquids should comply with the Uniform Fire Code and the National Electric Code.
- ☐ Storage of oil and hazardous materials must meet specific Federal and State standards including:
  - ✓ Spill Prevention Control and Countermeasure Plan (SPCC) Plan;
  - ✓ Secondary containment;
  - ✓ Integrity and leak detection monitoring; and
  - ✓ Emergency preparedness plans.

## **Potential Capital Facility Costs and Operation & Maintenance Requirements**

### ***Facilities***

- ☐ Capital investments such as sheds, covers, dikes, and curbs will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.

### ***Maintenance***

- ☐ Most of the operations and maintenance activities associated with implementing this BMP are integrally linked to routine operations as previously described. Therefore additional O&M is not required.
- ☐ Conduct regular inspections and make repairs and improvements as necessary.
- ☐ Conduct regular broom dry-sweeping of area. Do not wash with water.

## **Supplemental Information**

The most common causes of unintentional releases are:

- ☐ Installation problems;
- ☐ Failure of piping systems (pipes, pumps, flanges, couplings, hoses, and valves);
- ☐ External corrosion and structural failure;
- ☐ Spills and overfills due to operator error; and
- ☐ Leaks during pumping of liquids or gases from truck or rail car to a storage tank or vice versa.



# Outdoor Liquid Container Storage **SC-31**

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## ***Aboveground Tank Leak and Spill Control***

Storage of reactive, ignitable, or flammable liquids should comply with the Uniform Fire Code and the National Electric Code. Practices listed below should be employed to enhance the code requirements:

- ☐ Tanks should be placed in a designated area.
- ☐ Tanks located in areas where firearms are discharged should be encapsulated in concrete or the equivalent.
- ☐ Designated areas should be paved with Portland cement concrete, free of cracks and gaps, and impervious in order to contain leaks and spills.
- ☐ Liquid materials should be stored in UL approved double walled tanks or surrounded by a curb or dike to provide the volume to contain 10% of the volume of the containers or 110% of the volume of the largest container, whichever is greater. The area inside the curb should slope to a drain.
- ☐ For used oil or dangerous waste, a dead-end sump should be installed in the drain.
- ☐ Other liquids should be drained to the sanitary sewer if available. The drain must have a positive control such as a lock, valve, or plug to prevent release of contaminated liquids.
- ☐ Accumulated stormwater in petroleum storage areas should be passed through an oil/water separator.

Maintenance is critical to preventing leaks and spills. Conduct routine weekly inspections and:

- ☐ Check for external corrosion and structural failure.
- ☐ Check for spills and overfills due to operator error.
- ☐ Check for failure of piping system (pipes, pumps, flange, coupling, hoses, and valves).
- ☐ Check for leaks or spills during pumping of liquids or gases from truck or rail car to a storage facility or vice versa.
- ☐ Inspect new tank or container installation visually for loose fittings, poor welding, and improper or poorly fitted gaskets.
- ☐ Inspect tank foundations, connections, coatings, and tank walls and piping system. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.
- ☐ Frequently release accumulated stormwater during the wet season.
- ☐ Have periodic integrity testing conducted by a qualified professional.

# Outdoor Liquid Container Storage SC-31

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## ***Dikes***

One of the best protective measures against contamination of stormwater is the use of dikes. Containment dikes are berms or retaining walls that are designed to hold spills. Use of dikes is an effective pollution prevention measure for above ground storage tanks and railcar or tank truck loading and unloading areas. The dike surrounds the area of concern and holds the spill, keeping spill materials separated from the stormwater side of the dike area. Diking can be used in any industrial or municipal facility, but it is most commonly used for controlling large spills or releases from liquid storage areas and liquid transfer areas.

- ☐ For single-wall tanks, containment dikes should be large enough to hold the contents of the storage tank for the facility plus rain water.
- ☐ For trucks, diked areas should be capable of holding an amount equal to the volume of the tank truck compartment. Diked construction material should be strong enough to safely hold spilled materials.
- ☐ Dike materials can consist of earth, concrete, synthetic materials, metal, or other impervious materials.
- ☐ Strong acids or bases may react with metal containers, concrete, and some plastics.
- ☐ Where strong acids or bases are stored, alternative dike materials should be considered. More active organic chemicals may need certain special liners for dikes.
- ☐ Dikes may also be designed with impermeable materials to increase containment capabilities.
- ☐ Dikes should be inspected during or after significant storms or spills to check for washouts or overflows.
- ☐ Regular checks of containment dikes to insure the dikes are capable of holding spills should be conducted.
- ☐ Inability of a structure to retain stormwater, dike erosion, soggy areas, or changes in vegetation indicate problems with dike structures. Damaged areas should be patched and stabilized immediately.
- ☐ Earthen dikes may require special maintenance of vegetation such as mulching and irrigation.
- ☐ Remove accumulated stormwater after precipitation events and dispose of according to local regulations.

## ***Curbing***

Curbing is a barrier that surrounds an area of concern. Curbing is similar to containment diking in the way that it prevents spills and leaks from being released into the environment. Curbing is usually small scaled and does not contain large spills to the degree that dikes can. Curbing is common at many facilities in small areas where

# Outdoor Liquid Container Storage SC-31

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handling and transfer of liquid materials occur. Curbing can redirect contaminated stormwater away from the storage area. It is useful in areas where liquid materials are transferred from one container to another. Asphalt is a common material used for curbing; however, curbing materials can include earth, concrete, synthetic materials, metal, or other impenetrable materials.

- ❑ Spilled materials should be removed immediately from curbed areas to allow space for future spills.
- ❑ Curbs should have manually-controlled pump systems rather than common drainage systems for collection of spilled materials.
- ❑ The curbed area should be inspected regularly to clear clogging debris.
- ❑ Maintenance should also be conducted frequently to prevent overflow of any spilled materials as curbed areas are designed only for smaller spills.
- ❑ Remove accumulated stormwater after precipitation events and dispose of according to local regulations.
- ❑ Curbing has the following advantages:
  - ✓ Excellent run-on control;
  - ✓ Inexpensive;
  - ✓ Ease of installment;
  - ✓ Provides option to recycle materials spilled in curb areas; and
  - ✓ Common industry practice.

## References and Resources

Clark County Clean Water Program. 2009. *Clark County Stormwater Pollution Control Manual Best Management Practices for Businesses and Government Agencies, AS A2 & A3*. Available online at:  
<http://www.clark.wa.gov/boards/CleanWater/documents/PollutionControlManual.pdf>.

King County Storm Water Pollution Prevention Manual, 2009 *Commercial Best Management Practice (BMP) Activity Sheets: A-2 Storage of Liquid Materials in Stationary Tanks and A-3 Storage of Liquid Materials in Portable Containers*. Available online at:  
<http://www.kingcounty.gov/environment/waterandland/stormwater/documents/pollution-prevention-manual/commercial-bmp.aspx>.

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at:  
<http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities>.

# Outdoor Liquid Container Storage SC-31

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US EPA. National Pollutant Discharge Elimination System (NPDES) *Industrial Fact Sheet Series for Activities Covered by EPA's MSGP*. Available online at:  
<http://cfpub.epa.gov/npdes/stormwater/swsectors.cfm>.



# Outdoor Equipment Operations SC-32

## Description

Outside process equipment operations and maintenance can contaminate stormwater runoff. Activities, such as grinding, painting, coating, sanding, degreasing or parts cleaning, landfills and waste piles, and solid waste treatment and disposal are examples of process operations that can lead to contamination of stormwater runoff. The targeted constituents will vary for each site depending on the operation being performed.

## Approach

Implement source control BMPs to limit exposure of outdoor equipment to direct precipitation and stormwater run-on. Refer to SC-22 Vehicle and Equipment Repair for additional information.

## General Pollution Prevention Protocols

- ☐ Perform the activity during dry periods whenever possible.
- ☐ Install secondary containment measures where leaks and spills may occur.
- ☐ Use non-toxic chemicals for maintenance and minimize or eliminate the use of solvents.
- ☐ Connect process equipment area to public sanitary sewer or facility wastewater treatment system when possible. Some jurisdictions require that secondary containment areas be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.



## Good Housekeeping

- ☐ Manage materials and waste properly (see Material Handling and Waste Management) to reduce adverse impacts on stormwater quality.

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize

## Targeted Constituents

<i>Sediment</i>	✓
<i>Nutrients</i>	✓
<i>Trash</i>	✓
<i>Metals</i>	✓
<i>Bacteria</i>	✓
<i>Oil and Grease</i>	✓
<i>Organics</i>	✓

## Minimum BMPs Covered

	<i>Good Housekeeping</i>	✓
	<i>Preventative Maintenance</i>	✓
	<i>Spill and Leak Prevention and Response</i>	✓
	<i>Material Handling &amp; Waste Management</i>	✓
	<i>Erosion and Sediment Controls</i>	
	<i>Employee Training Program</i>	✓
	<i>Quality Assurance Record Keeping</i>	✓



# Outdoor Equipment Operations SC-32

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- ☐ Cover the work area with a permanent roof if possible.
- ☐ Use drop cloths for sanding and painting operations.
- ☐ Use a vacuum for fine particle clean-up in pavement cracks and crevices.
- ☐ Minimize contact of stormwater with outside process equipment operations through berming and drainage routing (run-on prevention).
- ☐ "Spot clean" leaks and drips routinely. Leaks are not cleaned up until the absorbent is picked up and disposed of properly.
- ☐ Paint signs on storm drain inlets to indicate that they are not to receive liquid or solid wastes.
- ☐ Use roll down or permanent walls when windy/breezy to prevent wind transport of particulates/pollutants.



## ***Preventative Maintenance***

- ☐ Design outdoor equipment areas to prevent stormwater runoff and spills. Use a perimeter drain or slope pavement inward with drainage to sump.
- ☐ Dry clean the work area regularly. Do not wash outdoor equipment with water if there is a direct connection to the storm drain.
- ☐ Pave area with concrete rather than asphalt.
- ☐ Inspect outdoor equipment regularly for leaks or spills. Also check for structural failure, spills and overfills due to operator error, and/or failure of piping system.
- ☐ Inspect and clean, if necessary, storm drain inlets and catch basins within the outdoor equipment area before October 1 each year.



## ***Spill Response and Prevention Procedures***

- ☐ Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- ☐ Have employees trained in emergency spill cleanup procedures present when dangerous waste, liquid chemicals, or other wastes are delivered.
- ☐ Place a stockpile of spill cleanup materials where it will be readily accessible.
- ☐ Prevent operator errors by using engineering safe guards and thus reducing accidental releases of pollutant.



## ***Material Handling and Waste Management***



# Outdoor Equipment Operations SC-32

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- ☐ Do not pour liquid wastes into floor drains, sinks, outdoor storm drain inlets, or other storm drain or sewer connections.
- ☐ Collect leaking or dripping fluids in drip pans or containers. Fluids are easier to recycle if kept separate.
- ☐ Promptly transfer used fluids to the proper waste or recycling drums. Do not leave drip pans or other open containers lying around.
- ☐ Minimize the possibility of stormwater pollution from outside waste receptacles by doing at least one of the following:
  - ✓ Use only watertight waste receptacle(s) and keep the lid(s) closed.
  - ✓ Grade and pave the waste receptacle area to prevent run-on of stormwater.
  - ✓ Install a roof over the waste receptacle area.



## ***Employee Training Program***

- ☐ Educate employees about pollution prevention measures and goals.
- ☐ Train employees on proper equipment operation and maintenance procedures.
- ☐ Train all employees upon hiring and annually thereafter on proper methods for handling and disposing of waste. Ensure that all employees understand stormwater discharge prohibitions, wastewater discharge requirements, and these best management practices.
- ☐ Use a training log or similar method to document training.
- ☐ Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.



## ***Quality Assurance and Record Keeping***

- ☐ Keep accurate maintenance logs that document minimum BMP activities performed for outdoor equipment, types and quantities of materials removed and disposed of, and any improvement actions.
- ☐ Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- ☐ Establish procedures to complete logs and file them in the central office.

## **Potential Limitations and Work-Arounds**

Some facilities may have space constraints, limited staffing and time limitations that may preclude implementation of BMPs. Provided below are typical limitations and recommended "work-arounds."

# **Outdoor Equipment Operations SC-32**

- Providing cover over outdoor equipment may be impractical or cost-prohibitive.
  - ✓ Operate outdoor equipment only during periods of dry weather.
- Regular operations and time limitations may require outdoor activities during wet weather.
  - ✓ Designate specific areas for outdoor activities.
  - ✓ Allow time for work area clean-up after each shift.
  - ✓ Require employees to understand and follow preventive maintenance and spill and leak prevention BMPs.
  - ✓ Design and install secondary containment and good housekeeping BMPs for outdoor equipment area.
- Storage sheds often must meet building and fire code requirements.

## **Potential Capital Facility Costs and Operation & Maintenance Requirements**

### ***Facilities***

- Many facilities will already have indoor covered areas where vehicle and equipment repairs take place and will require no additional capital expenditures.
- If outdoor activities are required, construction of berms or other means to retain spills and leaks may require appropriate constructed systems for containment. These containment areas may require significant new capital investment.
- Capital investments will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.

### ***Maintenance***

- Most of the operations and maintenance activities associated with implementing this BMP are integrally linked to routine operations as previously described. Therefore additional O&M is not required.
- For facilities responsible for pre-treating their wastewater prior to discharging, the proper functioning of structural treatment system is an important maintenance consideration.
- Routine cleanout of oil and grease is required for the devices to maintain their effectiveness, usually at least once a month. During periods of heavy rainfall, cleanout is required more often to ensure pollutants are not washed through the trap. Sediment removal is also required on a regular basis to keep the device working efficiently.



# Outdoor Equipment Operations SC-32

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## References and Resources

Minnesota Pollution Control Agency. *Industrial Stormwater Best Management Practices Guidebook BMP 26 Fueling and Liquid Loading/Unloading Operations*. Available online at: <http://www.pca.state.mn.us/index.php/view-document.html?gid=10557>.

New Jersey Department of Environmental Protection, 2013. *Basic Industrial Stormwater General Permit Guidance Document NJPDES General Permit No NJ0088315*. Available online at: [http://www.nj.gov/dep/dwq/pdf/5G2\\_guidance\\_color.pdf](http://www.nj.gov/dep/dwq/pdf/5G2_guidance_color.pdf).

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: <http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessactivities>.

Oregon Department of Environmental Quality, *Industrial Stormwater Best Management Practices Manual- BMP 26 Fueling and Liquid Loading/Unloading Operations*, February 2013. Available online at: <http://www.deq.state.or.us/wq/wqpermit/docs/IndBMP021413.pdf>.

Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at: <http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf>.

Sacramento County Environmental Management Stormwater Program: Best Management Practices. Available online at: <http://www.emd.saccounty.net/EnvHealth/Stormwater/Stormwater-BMPs.html>.

Santa Clara Valley Urban Runoff Pollution Prevention Program. <http://www.scvurppp-w2k.com/>

US EPA. National Pollutant Discharge Elimination System – Industrial Fact Sheet Series for Activities Covered by EPA’s Multi Sector General Permit. Available online at: <http://cfpub.epa.gov/npdes/stormwater/swsectors.cfm>.

# Outdoor Storage of Raw Materials SC-33

## Description

Stockpiles of raw materials, by-products, and finished products exposed to rain and/or runoff can pollute stormwater. Stormwater can become contaminated when materials wash off or dissolve into water due to improper storage and containment. To prevent or reduce the discharge of pollutants to stormwater from raw material delivery and storage, pollution prevention and source control measures must be implemented, such as minimizing the storage of hazardous materials on-site, enclosing or covering materials, storing materials in a designated area, installing secondary containment, conducting regular inspections, preventing stormwater run-on and runoff, and training employees and subcontractors. This fact sheet focuses on source control BMPs for stockpiles of solid materials; if the raw material, by-product, or product is a liquid, more information for outside storage of liquids can be found under SC-31 Outdoor Liquid Container Storage.

## Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

## General Pollution Prevention Protocols

- ☐ Emphasize employee education for successful BMP implementation.
- ☐ Store materials that could contaminate stormwater inside or under permanent cover. If this is not feasible, then all outside storage areas should be covered with a roof and bermed or enclosed to prevent stormwater contact.
- ☐ Elevate and tarp solid materials such as beams, metal, etc.
- ☐ Minimize the inventory of raw materials kept outside.

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize

## Targeted Constituents

Sediment	✓
Nutrients	✓
Trash	
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓

## Minimum BMPs Covered

 Good Housekeeping	✓
 Preventative Maintenance	✓
 Spill and Leak Prevention and Response	✓
 Material Handling & Waste Management	
 Erosion and Sediment Controls	✓
 Employee Training Program	✓
 Quality Assurance Record Keeping	✓





# Outdoor Storage of Raw Materials SC-33

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- ❑ Keep an accurate, up-to-date inventory of the materials delivered and stored on-site.
- ❑ Stormwater runoff that could potentially be contaminated by materials stored outdoors should be drained to the sanitary sewer if available. The drain must have a positive control such as a lock, valve, or plug to prevent release of contaminated liquids.



## **Good Housekeeping**

- ❑ If raw materials cannot all be stored inside or under permanent cover, prevent exposure to direct precipitation and stormwater run-on by installing a storm-resistant waterproof covering made of polyethylene, polypropylene or hypalon over all materials stored outside. The covers must be in place at all times when work with the stockpiles is not occurring (Applicable to small stockpiles only).
- ❑ Implement erosion control practices at the perimeter of the facility site and at any catch basins to prevent erosion of the stockpiled material off-site, if the stockpiles are so large that they cannot feasibly be covered and contained.
- ❑ Minimize stormwater run-on by enclosing the area or building a berm around it.
- ❑ Keep storage areas clean and dry.
- ❑ Slope paved areas in a manner that minimizes pooling of water on the site, particularly with materials that may leach pollutants into stormwater and/or groundwater, such as compost, logs, and wood chips. A minimum slope of 1.5% is recommended.
- ❑ Secure drums stored in an area where unauthorized persons may not gain access to prevent accidental spillage, pilferage, or any unauthorized use.
- ❑ Install curbing or berms along the perimeter of the area to prevent the run-on of uncontaminated stormwater from adjacent areas as well as runoff of stormwater from the stockpile areas.
- ❑ Slope the area inside the curb or berm to a drain with sump. The sump should be equipped with an oil and water separator if applicable for materials stored onsite.
- ❑ Do not store materials on top of or directly adjacent to storm drain inlets.
- ❑ Cover wood products treated with chromated copper arsenate, ammonical copper zinc arsenate, creosote, or pentachlorophenol with properly secured tarps or store indoors.



## **Preventative Maintenance**

- ❑ Maintain outdoor storage containers in good condition. Replace leaky or otherwise inadequate containers as necessary.
- ❑ Maintain outdoor waterproof covers (e.g., tarps) in good condition and properly secure them to be storm resistant. Replace tarps damaged by UV exposure or wear and tear on a regular basis.

# Outdoor Storage of Raw Materials SC-33

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- ☐ Perform routine inspection of storm drains and sumps and regularly remove accumulated materials.
- ☐ Dry clean the work area regularly. Do not wash outdoor material storage areas with water if there is a direct connection to the storm drain.
- ☐ Pave outdoor storage areas for liquids such as solvents with concrete rather than asphalt.
- ☐ Conduct regular inspections of storage areas so that leaks and spills are detected as soon as possible.
- ☐ Routinely inspect berms, curbing, containment, and sediment controls for proper function and repair as necessary.



## ***Spill and Leak Prevention and Response***

- ☐ Keep the facility spill prevention and control plan up-to-date.
- ☐ Place a stockpile of spill cleanup materials, such as brooms, dustpans, and vacuum sweepers (if desired) near the storage area where it will be readily accessible.
- ☐ Have employees trained in spill containment and cleanup present during the loading/unloading of hazardous or otherwise dangerous materials.



## ***Erosion and Sediment Controls***

- ☐ Keep materials covered to prevent erosion of stockpiles. This may not be feasible for large stockpiles.
- ☐ Install sediment controls such as fiber rolls around the perimeter of stockpiles to prevent transport of raw materials to the storm drain.
- ☐ Install drain inlet protection around all inlets to prevent raw materials from entering storm drain.
- ☐ Install sediment controls such as silt fence around the perimeter of the site to prevent transport of raw materials to the storm drain or offsite surface waters.



## ***Employee Training Program***

- ☐ Educate employees about pollution prevention measures and goals.
- ☐ Train employees how to properly store outdoor raw materials using the source control BMPs described above.
- ☐ Use a training log or similar method to document training.
- ☐ Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.



# Outdoor Storage of Raw Materials SC-33



## **Quality Assurance and Record Keeping**

- ☐ Keep accurate maintenance logs that document minimum BMP activities performed for outdoor storage of raw materials, types and quantities of materials removed and disposed of, and any improvement actions.
- ☐ Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- ☐ Establish procedures to complete logs and file them in the central office.

## **Other Facility-Specific Considerations**

- ☐ Storage sheds often must meet building and fire code requirements. Storage of reactive, ignitable, or flammable liquids must comply with the Uniform Fire Code and the National Electric Code.
- ☐ Some municipalities require that secondary containment areas (regardless of size) be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.
- ☐ The local fire district must be consulted for limitations on clearance of roof covers over containers used to store flammable materials.

## **Potential Limitations and Work-Arounds**

Some facilities may have space constraints, limited staffing and time limitations that may preclude implementation of BMPs. Provided below are typical limitations and recommended “work-arounds”

- ☐ Space limitations may preclude storing all materials indoors.
  - ✓ Implement good housekeeping, preventative maintenance, and erosion and sediment controls as described above.

## **Potential Capital Facility Costs and Operation & Maintenance Requirements**

### ***Facilities***

- ☐ Many facilities will already have indoor covered areas where raw materials will be stored and will require no additional capital expenditures.
- ☐ If outdoor storage of materials is required, construction of berms or other means to prevent stormwater run-on and runoff may require appropriate constructed systems for containment. These containment areas may require significant new capital investment.
- ☐ Purchase and installation of erosion and sediment controls will require additional capital investments, and this amount will vary depending on site characteristics.
- ☐ Capital investments will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.

# **Outdoor Storage of Raw Materials SC-33**

## ***Maintenance***

- ❑ Accurate and up-to-date inventories should be kept of all stored materials.
- ❑ Berms and curbs may require periodic repair and patching.
- ❑ Parking lots or other surfaces near bulk materials storage areas should be swept periodically to remove debris blown or washed from storage areas.
- ❑ Sweep paved storage areas regularly for collection and disposal of loose solid materials, do not hose down the area to a storm drain or conveyance ditch.
- ❑ Erosion and sediment controls require regular inspection and periodic replacement or reinstallation.

## **Supplemental Information**

### ***Raw Material Containment***

Paved areas should be sloped in a manner that minimizes pooling of water on the site, particularly with materials that may leach pollutants into stormwater and/or groundwater, such as compost, logs, and wood chips. A minimum slope of 1.5% is recommended.

- ❑ Curbing or berms should be placed along the perimeter of the area to prevent the run-on of uncontaminated stormwater from adjacent areas as well as runoff of stormwater from stockpile areas.
- ❑ The storm drainage system should be designed to minimize use of catch basins in the interior of the area as they tend to rapidly fill with manufacturing material.

The area should be sloped to drain stormwater to the perimeter where it can be collected or to internal drainage alleyways where material is not stockpiled.

The “doghouse” design has been used to store small liquid containers. The roof and flooring design prevent contact with direct rain or runoff. The doghouse has two solid structural walls and two canvas covered walls. The flooring is wire mesh about secondary containment.

## **References and Resources**

Minnesota Pollution Control Agency, *Industrial Stormwater Best Management Practices Guidebook*. Available online at: <http://www.pca.state.mn.us/index.php/view-document.html?gid=10557>.

New Jersey Department of Environmental Protection, 2013. *Basic Industrial Stormwater General Permit Guidance Document NJPDES General Permit No NJ0088315*. Available online at: [http://www.nj.gov/dep/dwq/pdf/5G2\\_guidance\\_color.pdf](http://www.nj.gov/dep/dwq/pdf/5G2_guidance_color.pdf).

Orange County Stormwater Program, *Best Management Practices for Industrial/Commercial Business Activities*. Available online at: <http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities>

# **Outdoor Storage of Raw Materials SC-33**

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Oregon Department of Environmental Quality. 2013. *Industrial Stormwater Best Management Practices Manual*. Available online at:  
<http://www.deq.state.or.us/wq/wqpermit/docs/IndBMP021413.pdf>

Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at:  
<http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf>.

Sacramento County Environmental Management Stormwater Program: Best Management Practices. Available online at:  
<http://www.emd.saccounty.net/EnvHealth/Stormwater/Stormwater-BMPs.html>.

Santa Clara Valley Urban Runoff Pollution Prevention Program. <http://www.scvurppp-w2k.com/>.

US EPA. National Pollutant Discharge Elimination System – Industrial Fact Sheet Series for Activities Covered by EPA’s Multi Sector General Permit. Available online at:  
<http://cfpub.epa.gov/npdes/stormwater/swsectors.cfm>.



## Description

Improper storage and handling of solid wastes can allow toxic compounds, oils and greases, heavy metals, nutrients, suspended solids, and other pollutants to enter stormwater runoff. The discharge of pollutants to stormwater from waste handling and disposal can be prevented and reduced by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction, reuse, and recycling; and preventing run-on and runoff.

## Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

## General Pollution Prevention Protocols

- ☐ Accomplish reduction in the amount of waste generated using the following source controls:
  - ✓ Production planning and sequencing;
  - ✓ Process or equipment modification;
  - ✓ Raw material substitution or elimination;
  - ✓ Loss prevention and housekeeping;
  - ✓ Waste segregation and separation; and
  - ✓ Close loop recycling.
- ☐ Establish a material tracking system to increase awareness about material usage. This may reduce spills and minimize contamination, thus reducing the amount of waste produced.
- ☐ Recycle materials whenever possible.

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Targeted Constituents

Sediment

Nutrients

Trash

Metals ✓

Bacteria ✓

Oil and Grease ✓

Organics ✓

## Minimum BMPs Covered

	Good Housekeeping	✓
	Preventative Maintenance	✓
	Spill and Leak Prevention and Response	✓
	Material Handling & Waste Management	✓
	Erosion and Sediment Controls	
	Employee Training Program	✓
	Quality Assurance Record Keeping	✓





- ☐ Use the entire product before disposing of the container.
- ☐ To the extent possible, store wastes under cover or indoors after ensuring all safety concerns such as fire hazard and ventilation are addressed.
- ☐ Provide containers for each waste stream at each work station. Allow time after shift to clean area.



## ***Good Housekeeping***

- ☐ Cover storage containers with leak proof lids or some other means. If waste is not in containers, cover all waste piles (plastic tarps are acceptable coverage) and prevent stormwater run-on and runoff with a berm. The waste containers or piles must be covered except when in use.
- ☐ Use drip pans or absorbent materials whenever grease containers are emptied by vacuum trucks or other means. Grease cannot be left on the ground. Collected grease must be properly disposed of as garbage.
- ☐ Dispose of rinse and wash water from cleaning waste containers into a sanitary sewer if allowed by the local sewer authority. Do not discharge wash water to the street or storm drain. Clean in a designated wash area that drains to a clarifier.
- ☐ Transfer waste from damaged containers into safe containers.
- ☐ Take special care when loading or unloading wastes to minimize losses. Loading systems can be used to minimize spills and fugitive emission losses such as dust or mist. Vacuum transfer systems can minimize waste loss.
- ☐ Keep the waste management area clean at all times by sweeping and cleaning up spills immediately.
- ☐ Use dry methods when possible (e.g., sweeping, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- ☐ Stencil or demarcate storm drains on the facility's property with prohibitive message regarding waste disposal.
- ☐ Cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropylene or hypalon.
- ☐ If possible, move the activity indoor after ensuring all safety concerns such as fire hazard and ventilation are addressed.



## ***Preventative Maintenance***

- ☐ Prevent stormwater run-on from entering the waste management area by enclosing the area or building a berm around the area.
- ☐ Prevent waste materials from directly contacting rain.

- ☐ Cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropylene or hypalon.
- ☐ Cover the area with a permanent roof if feasible.
- ☐ Cover dumpsters to prevent rain from washing waste out of holes or cracks in the bottom of the dumpster.
- ☐ Check waste containers weekly for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating.
- ☐ Sweep and clean the waste management area regularly. Use dry methods when possible (e.g., sweeping, vacuuming, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- ☐ Inspect and replace faulty pumps or hoses regularly to minimize the potential of releases and spills.
- ☐ Repair leaking equipment including valves, lines, seals, or pumps promptly.



## ***Spill Response and Prevention Procedures***

- ☐ Keep your spill prevention and plan up-to-date.
- ☐ Have an emergency plan, equipment and trained personnel ready at all times to deal immediately with major spills.
- ☐ Collect all spilled liquids and properly dispose of them.
- ☐ Store and maintain appropriate spill cleanup materials in a location known to all near the designated wash area.
- ☐ Ensure that vehicles transporting waste have spill prevention equipment that can prevent spills during transport. Spill prevention equipment includes:
  - ✓ Vehicles equipped with baffles for liquid waste; and
  - ✓ Trucks with sealed gates and spill guards for solid waste.



## ***Material Handling and Waste Management***

### ***Litter Control***

- ☐ Post “No Littering” signs and enforce anti-litter laws.
- ☐ Provide a sufficient number of litter receptacles for the facility.
- ☐ Clean out and cover litter receptacles frequently to prevent spillage.

### ***Waste Collection***

- ☐ Keep waste collection areas clean.



- ☐ Inspect solid waste containers for structural damage regularly. Repair or replace damaged containers as necessary.
- ☐ Secure solid waste containers; containers must be closed tightly when not in use.
- ☐ Do not fill waste containers with washout water or any other liquid.
- ☐ Ensure that only appropriate solid wastes are added to the solid waste container. Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc., may not be disposed of in solid waste containers (see chemical/ hazardous waste collection section below).
- ☐ Do not mix wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal. Affix labels to all waste containers.

## *Chemical/Hazardous Wastes*

- ☐ Select designated hazardous waste collection areas on-site.
- ☐ Store hazardous materials and wastes in covered containers and protect them from vandalism.
- ☐ Place hazardous waste containers in secondary containment.
- ☐ Make sure that hazardous waste is collected, removed, and disposed of only at authorized disposal areas.
- ☐ Hazardous waste cannot be reused or recycled; it must be disposed of by a licensed hazardous waste hauler.



## **Employee Training Program**

- ☐ Educate employees about pollution prevention measures and goals.
- ☐ Train employees how to properly handle and dispose of waste using the source control BMPs described above.
- ☐ Train employees and subcontractors in proper hazardous waste management.
- ☐ Use a training log or similar method to document training.
- ☐ Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.



## **Quality Assurance and Record Keeping**

- ☐ Keep accurate maintenance logs that document minimum BMP activities performed for waste handling and disposal, types and quantities of waste disposed of, and any improvement actions.
- ☐ Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.

- Establish procedures to complete logs and file them in the central office.

## Potential Capital Facility Costs and Operation & Maintenance Requirements

### Facilities

- Capital costs will vary substantially depending on the size of the facility and the types of waste handled. Significant capital costs may be associated with reducing wastes by modifying processes or implementing closed-loop recycling.
- Many facilities will already have indoor covered areas where waste materials will be stored and will require no additional capital expenditures for providing cover.
- If outdoor storage of wastes is required, construction of berms or other means to prevent stormwater run-on and runoff may require appropriate constructed systems for containment.
- Capital investments will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.

### Maintenance

- Check waste containers weekly for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating.
- Sweep and clean the waste management area regularly. Use dry methods when possible (e.g., sweeping, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- Inspect and replace faulty pumps or hoses regularly to minimize the potential of releases and spills.
- Repair leaking equipment including valves, lines, seals, or pumps promptly.

## References and Resources

Minnesota Pollution Control Agency, *Industrial Stormwater Best Management Practices Guidebook*. Available online at: <http://www.pca.state.mn.us/index.php/view-document.html?gid=10557>.

New Jersey Department of Environmental Protection, 2013. *Basic Industrial Stormwater General Permit Guidance Document NJPDES General Permit No NJ0088315*, Revised. Available online at: [http://www.nj.gov/dep/dwq/pdf/5G2\\_guidance\\_color.pdf](http://www.nj.gov/dep/dwq/pdf/5G2_guidance_color.pdf).

Orange County Stormwater Program, *Best Management Practices for Industrial/Commercial Business Activities*. Available online at: <http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities>



Oregon Department of Environmental Quality, 2013. *Industrial Stormwater Best Management Practices Manual- BMP 26 Fueling and Liquid Loading/Unloading Operations*. Available online at:

<http://www.deq.state.or.us/wq/wqpermit/docs/IndBMP021413.pdf>.

Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at:

<http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf>.

Sacramento County Environmental Management Stormwater Program: Best Management Practices. Available online at:

<http://www.emd.saccounty.net/EnvHealth/Stormwater/Stormwater-BMPs.html>.

Santa Clara Valley Urban Runoff Pollution Prevention Program. <http://www.scvurppp-w2k.com/>

US EPA. National Pollutant Discharge Elimination System – Industrial Fact Sheet Series for Activities Covered by EPA’s Multi Sector General Permit. Available online at:

<http://cfpub.epa.gov/npdes/stormwater/swsectors.cfm>.

# Contaminated or Erodible Areas SC-40

## Description

Areas within an industrial site that are bare of vegetation or are subject to activities that promote the suppression of vegetation are often subject to erosion. In addition, they may or may not be contaminated from past or current activities. If the area is temporarily bare because of construction, see SC-42 Building Repair, Remodeling, and Construction. Sites with excessive erosion or the potential for excessive erosion should consider employing the soil erosion BMPs identified in the Construction BMP Handbook. Note that this fact sheet addresses soils that do not exceed hazardous waste criteria (see Title 22 California Code of Regulations for Hazardous Waste Criteria).

## Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

## General Pollution Prevention Protocols

Implement erosion and sediment control BMPs to stabilize soils and reduce pollutant discharges from contaminated or erodible surfaces.

## Erosion and Sediment Controls

- ☐ Preserve natural vegetation whenever possible. See also EC-2 Preservation of Existing Vegetation, in the Construction BMP Handbook.
- ☐ Analyze soil conditions.
- ☐ Remove contaminated soil and dispose of properly.
- ☐ Stabilize loose soils by re-vegetating whenever possible. See also EC-4 Hydroseeding, in the Construction BMP Handbook.

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Targeted Constituents

Sediment	✓
Nutrients	✓
Trash	
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓

## Minimum BMPs Covered

	Good Housekeeping	
	Preventative Maintenance	
	Spill and Leak Prevention and	
	Material Handling & Waste Management	
	Erosion and Sediment Controls	✓
	Employee Training Program	✓
	Quality Assurance Record Keeping	✓



# Contaminated or Erodible Areas SC-40

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- Utilize non-vegetative stabilization methods for areas prone to erosion where vegetative options are not feasible. Examples include:
  - ✓ Areas of vehicular or pedestrian traffic such as roads or paths;
  - ✓ Arid environments where vegetation would not provide timely ground coverage, or would require excessive irrigation;
  - ✓ Rocky substrate, infertile or droughty soils where vegetation would be difficult to establish; and
  - ✓ Areas where vegetation will not grow adequately within the construction time frame.

There are several non-vegetative stabilization methods and selection should be based on site-specific conditions. See also EC-16 Non-Vegetative Stabilization, in the Construction BMP Handbook.

- Utilize chemical stabilization when needed. See also EC-5 Soil Binders, in the Construction BMP Handbook.
- Use geosynthetic membranes to control erosion if feasible. See also EC-7 Geotextiles and Mats, in the Construction BMP Handbook.
- Stabilize all roadways, entrances, and exits to sufficiently control discharges of erodible materials from discharging or being tracked off the site. See also TC 1-3 Tracking Control, in the Construction BMP Handbook.
- Implement wind erosion control measures as necessary. See also WE-1 Wind Erosion Control, in the Construction BMP Handbook.



## ***Employee Training Program***

- Educate employees about pollution prevention measures and goals.
- Train employees how to properly install and maintain the erosion and sediment source control BMPs described above. Detailed information is provided in the Construction BMP Handbook.
- Use a training log or similar method to document training.



## ***Quality Assurance and Record Keeping***

- Keep accurate logs that document actions taken to maintain and improve the effectiveness of the erosion and sediment control BMPs described above.
- Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- Establish procedures to complete logs and file them in the central office.



# **Contaminated or Erodible Areas SC-40**

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## **Potential Capital Facility Costs and Operation & Maintenance Requirements**

### ***Facilities***

- ❑ Many facilities do not have contaminated or erodible areas and will require no additional capital expenditures.
- ❑ For sites with contaminated or erodible areas, purchase and installation of erosion and sediment controls will require additional capital investments, and this amount will vary depending on site characteristics and the types of BMPs being implemented.
- ❑ Minimize costs by maintaining existing vegetation and limiting site operations on bare soils.

### ***Maintenance***

- ❑ The erosion and sediment control BMPs described above require periodic inspection and maintenance to remain effective. The cost of these actions will vary depending on site characteristics and the types of BMPs being implemented.
- ❑ Irrigation costs may be required to establish and maintain vegetation.

## **Supplemental Information**

### ***Stabilization of Erodible Areas***

Preserving stabilized areas minimizes erosion potential, protects water quality, and provides aesthetic benefits. The most effective way to control erosion is to preserve existing vegetation. Preservation of natural vegetation provides a natural buffer zone and an opportunity for infiltration of stormwater and capture of pollutants in the soil matrix. This practice can be used as a permanent source control measure.

Vegetation preservation should be incorporated into the site. Preservation requires good site management to minimize operations on bare soils where vegetation exists. Proper maintenance is important to ensure healthy vegetation that can control erosion. Different species, soil types, and climatic conditions will require different maintenance activities such as mulching, fertilizing, liming, irrigation, pruning and weed and pest control.

The preferred approach is to leave as much native vegetation on-site as possible, thereby reducing or eliminating any erosion problem. However, assuming the site already has contaminated or erodible surface areas, there are four possible courses of action which can be taken:

- ❑ The area can be revegetated if it is not in use and therefore not subject to damage from site activities. In as much as the area is already devoid of vegetation, special measures are likely necessary. Lack of vegetation may be due to the lack of water and/or poor soils. The latter can perhaps be solved with fertilization, or the ground may simply be too compacted from prior use. Improving soil conditions may be sufficient to support the recovery of vegetation. Use process wastewater for irrigation if possible, and see the Construction BMP Handbook for further procedures on establishing vegetation.



# Contaminated or Erodible Areas SC-40

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- Watering trucks to prevent dust.
- Chemical stabilization can be used as an alternate method in areas where temporary seeding practices cannot be used because of season or climate. It can provide immediate, effective, and inexpensive erosion control. Application rates and procedures recommended by the manufacturer should be followed as closely as possible to prevent the products from forming ponds and creating large areas where moisture cannot penetrate the soil. See also EC-5, Soil Binders, in the Construction BMP Handbook for more information. Advantages of chemical stabilization include:
  - ✓ Applied easily to the surface;
  - ✓ Stabilizes areas effectively; and
  - ✓ Provides immediate protection to soils that are in danger of erosion.
- Contaminated soils should be cleaned up or removed. This requires determination of the level and extent of the contamination. Removal must comply with State and Federal regulations; permits must be acquired and fees paid.
- Non-vegetated stabilization methods are suitable for permanently protecting from erosion by water and wind. Non-vegetated stabilization should only be utilized when vegetation cannot be established due to soil or climactic conditions, or where vegetation may be a potential fire hazard.

Examples of non-vegetative stabilization BMPs are provided below:

- ✓ **Decomposed Granite (DG) and Gravel Mulch** are suitable for use in areas where vegetation establishment is difficult, on flat surfaces, trails and pathways, and when used in conjunction with a stabilizer or tackifier, on shallow slopes (i.e., 10:1 [H:V]). DG and gravel can also be used on shallow rocky slopes where vegetation cannot be established for permanent erosion control.
- ✓ **Degradable Mulches** can be used to cover and protect soil surfaces from erosion both in temporary and permanent applications. In many cases, the use of mulches by themselves requires routine inspection and re-application. See EC-3 Hydraulic Mulch, EC-6 Straw Mulch, EC-8 Wood Mulch, or EC-14 Compost Blankets of the Construction BMP Handbook for more information.
- ✓ **Geotextiles and Mats** can be used as a temporary stand-alone soil stabilization method. Depending on material selection, geotextiles and mats can be a short-term (3 months – 1 year) or long-term (1-2 years) temporary stabilization method. For more information on geotextiles and mats see EC-7 Geotextiles and Mats of the Construction BMP Handbook.
- ✓ **Rock Slope Protection** can be used when the slopes are subject to scour or have a high erosion potential, such as slopes adjacent to flowing waterways or slopes subject to overflow from detention facilities (spillways).

# Contaminated or Erodible Areas SC-40

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- ✓ **Soil Binders** can be used for temporary stabilization of stockpiles and disturbed areas not subject to heavy traffic. See EC-5 Soil Binders for more information. References and Resources.

## References and Resources

California Stormwater Quality Association 2012, *Construction Stormwater Best Management Practice Handbook*. Available at <http://www.casqa.org>.

City of Seattle, Seattle Public Utilities Department of Planning and Development, 2009. *Stormwater Manual Vol. 1 Source Control Technical Requirements Manual*.

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: <http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities>.

Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at: <http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf>.

Santa Clara Valley Urban Runoff Pollution Prevention Program, <http://www.scvurppp-w2k.com/>.

Tahoe Regional Planning Agency, *Best Management Practices Handbook*, 2012. Available online at: <http://www.tahoebmp.org/Documents/2012%20BMP%20Handbook.pdf>.

The Storm Water Managers Resource Center, <http://www.stormwatercenter.net>.

U.S. Environmental Protection Agency, *Construction Site Stormwater Runoff Control*. Available online at: [http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min\\_measure&min\\_measure\\_id=4](http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=4).

# Building & Grounds Maintenance SC-41

## Description

Stormwater runoff from building and grounds maintenance activities can be contaminated with toxic hydrocarbons in solvents, fertilizers and pesticides, suspended solids, heavy metals, abnormal pH, and oils and greases. Utilizing the protocols in this fact sheet will prevent or reduce the discharge of pollutants to stormwater from building and grounds maintenance activities by washing and cleaning up with as little water as possible, following good landscape management practices, preventing and cleaning up spills immediately, keeping debris from entering the storm drains, and maintaining the stormwater collection system.

## Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

## General Pollution Prevention Protocols

- ☐ Switch to non-toxic chemicals for maintenance to the maximum extent possible.
- ☐ Choose cleaning agents that can be recycled.
- ☐ Encourage proper lawn management and landscaping, including use of native vegetation.
- ☐ Encourage use of Integrated Pest Management techniques for pest control.
- ☐ Encourage proper onsite recycling of yard trimmings.
- ☐ Recycle residual paints, solvents, lumber, and other material as much as possible.

## Objectives

- *Cover*
- *Contain*
- *Educate*
- *Reduce/Minimize*
- *Product Substitution*

## Targeted Constituents

<i>Sediment</i>	✓
<i>Nutrients</i>	✓
<i>Trash</i>	
<i>Metals</i>	✓
<i>Bacteria</i>	✓
<i>Oil and Grease</i>	
<i>Organics</i>	

## Minimum BMPs Covered

	<i>Good Housekeeping</i>	✓
	<i>Preventative Maintenance</i>	
	<i>Spill and Leak Prevention and Response</i>	✓
	<i>Material Handling &amp; Waste Management</i>	✓
	<i>Erosion and Sediment Controls</i>	
	<i>Employee Training Program</i>	✓
	<i>Quality Assurance Record Keeping</i>	✓





# Building & Grounds Maintenance SC-41

- Clean work areas at the end of each work shift using dry cleaning methods such as sweeping and vacuuming.



## ***Good Housekeeping***

### *Pressure Washing of Buildings, Rooftops, and Other Large Objects*

- In situations where soaps or detergents are used and the surrounding area is paved, pressure washers must use a water collection device that enables collection of wash water and associated solids. A sump pump, wet vacuum or similarly effective device must be used to collect the runoff and loose materials. The collected runoff and solids must be disposed of properly.
- If soaps or detergents are not used, and the surrounding area is paved, wash runoff does not have to be collected but must be screened. Pressure washers must use filter fabric or some other type of screen on the ground and/or in the catch basin to trap the particles in wash water runoff.
- If you are pressure washing on a grassed area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the grass and not drain to pavement.

### *Landscaping Activities*

- Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage, or by composting. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures on exposed soils. See also SC-40, Contaminated and Erodible Areas, for more information.

### *Building Repair, Remodeling, and Construction*

- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
- Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Clean paintbrushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.
- Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin. This is particularly necessary on rainy days. The containment device(s) must be in place at the beginning of the work day, and accumulated dirty runoff and



# **Building & Grounds Maintenance SC-41**

solids must be collected and disposed of before removing the containment device(s) at the end of the work day.

- ☐ If you need to de-water an excavation site, you may need to filter the water before discharging to a catch basin or off-site. If directed off-site, you should direct the water through hay bales and filter fabric or use other sediment filters or traps.
- ☐ Store toxic material under cover during precipitation events and when not in use. A cover would include tarps or other temporary cover material.

## *Mowing, Trimming, and Planting*

- ☐ Dispose of leaves, sticks, or other collected vegetation as garbage, by composting or at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- ☐ Use mulch or other erosion control measures when soils are exposed.
- ☐ Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- ☐ Consider an alternative approach when bailing out muddy water: do not put it in the storm drain; pour over landscaped areas.
- ☐ Use hand weeding where practical.

## *Fertilizer and Pesticide Management*

- ☐ Do not use pesticides if rain is expected.
- ☐ Do not mix or prepare pesticides for application near storm drains.
- ☐ Use the minimum amount needed for the job.
- ☐ Calibrate fertilizer distributors to avoid excessive application.
- ☐ Employ techniques to minimize off-target application (e.g., spray drift) of pesticides, including consideration of alternative application techniques.
- ☐ Apply pesticides only when wind speeds are low.
- ☐ Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface.
- ☐ Irrigate slowly to prevent runoff and then only as much as is needed.
- ☐ Clean pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.

## *Inspection*

- ☐ Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering and repair leaks in the irrigation system as soon as they are observed.

# Building & Grounds Maintenance SC-41



## ***Spill Response and Prevention Procedures***

- ☐ Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- ☐ Place a stockpile of spill cleanup materials, such as brooms, dustpans, and vacuum sweepers (if desired) near the storage area where it will be readily accessible.
- ☐ Have employees trained in spill containment and cleanup present during the loading/unloading of dangerous wastes, liquid chemicals, or other materials.
- ☐ Familiarize employees with the Spill Prevention Control and Countermeasure Plan.
- ☐ Clean up spills immediately.



## ***Material Handling and Waste Management***

- ☐ Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- ☐ Use less toxic pesticides that will do the job when applicable. Avoid use of copper-based pesticides if possible.
- ☐ Dispose of empty pesticide containers according to the instructions on the container label.
- ☐ Use up the pesticides. Rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- ☐ Implement storage requirements for pesticide products with guidance from the local fire department and County Agricultural Commissioner. Provide secondary containment for pesticides.



## ***Employee Training Program***

- ☐ Educate and train employees on pesticide use and in pesticide application techniques to prevent pollution.
- ☐ Train employees and contractors in proper techniques for spill containment and cleanup.
- ☐ Be sure the frequency of training takes into account the complexity of the operations and the needs of individual staff.



## ***Quality Assurance and Record Keeping***

- ☐ Keep accurate logs that document maintenance activities performed and minimum BMP measures implemented.
- ☐ Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- ☐ Establish procedures to complete logs and file them in the central office.

# **Building & Grounds Maintenance SC-41**

## **Potential Capital Facility Costs and Operation & Maintenance Requirements**

### ***Facilities***

- Additional capital costs are not anticipated for building and grounds maintenance. Implementation of the minimum BMPs described above should be conducted as part of regular site operations.

### ***Maintenance***

- Maintenance activities for the BMPs described above will be minimal, and no additional cost is anticipated.

## **Supplemental Information**

### ***Fire Sprinkler Line Flushing***

Site fire sprinkler line flushing may be a source of non-stormwater runoff pollution. The water entering the system is usually potable water, though in some areas it may be non-potable reclaimed wastewater. There are subsequent factors that may drastically reduce the quality of the water in such systems. Black iron pipe is usually used since it is cheaper than potable piping, but it is subject to rusting and results in lower quality water. Initially, the black iron pipe has an oil coating to protect it from rusting between manufacture and installation; this will contaminate the water from the first flush but not from subsequent flushes. Nitrates, poly-phosphates and other corrosion inhibitors, as well as fire suppressants and antifreeze may be added to the sprinkler water system. Water generally remains in the sprinkler system a long time (typically a year) and between flushes may accumulate iron, manganese, lead, copper, nickel, and zinc. The water generally becomes anoxic and contains living and dead bacteria and breakdown products from chlorination. This may result in a significant BOD problem and the water often smells. Consequently dispose fire sprinkler line flush water into the sanitary sewer. Do not allow discharge to storm drain or infiltration due to potential high levels of pollutants in fire sprinkler line water.

## **References and Resources**

City of Seattle, Seattle Public Utilities Department of Planning and Development, 2009. *Stormwater Manual Vol. 1 Source Control Technical Requirements Manual*.

Kennedy/Jenks Consultants, 2007. *The Truckee Meadows Industrial and Commercial Storm Water Best Management Practices Handbook*. Available online at: [http://www.cityofsparks.us/sites/default/files/assets/documents/env-control/construction/TM-I-C\\_BMP\\_Handbook\\_2-07-final.pdf](http://www.cityofsparks.us/sites/default/files/assets/documents/env-control/construction/TM-I-C_BMP_Handbook_2-07-final.pdf).

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: <http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities>.

Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at:

# **Building & Grounds Maintenance SC-41**

<http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf>.

US EPA, 1997. *Best Management Practices Handbook for Hazardous Waste Containers*. Available online at: <http://www.epa.gov/region6/6en/h/handbk4.pdf>.

Ventura Countywide Stormwater Management Program Clean Business Fact Sheets. Available online at: [http://www.vcstormwater.org/documents/programs\\_business/building.pdf](http://www.vcstormwater.org/documents/programs_business/building.pdf).



## Description

Parking lots can contribute a number of substances, such as trash, suspended solids, hydrocarbons, oil and grease, and heavy metals that can enter receiving waters through stormwater runoff or non-stormwater discharges. The protocols in this fact sheet are intended to prevent or reduce the discharge of pollutants from parking areas and include using good housekeeping practices, following appropriate cleaning BMPs, and training employees.

BMPs for other outdoor areas on site (loading/unloading, material storage, and equipment operations) are described in SC-30 through SC-33.

## Approach

The goal of this program is to ensure stormwater pollution prevention practices are considered when conducting activities on or around parking areas to reduce potential for pollutant discharge to receiving waters. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

### General Pollution Prevention Protocols

- ☐ Encourage advanced designs and maintenance strategies for impervious parking lots. Refer to the treatment control BMP fact sheets in this manual for additional information.
- ☐ Keep accurate maintenance logs to evaluate BMP implementation.



### Good Housekeeping

- ☐ Keep all parking areas clean and orderly. Remove debris, litter, and sediments in a timely fashion.
- ☐ Post "No Littering" signs and enforce anti-litter laws.

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

## Targeted Constituents

Sediment	✓
Nutrients	
Trash	✓
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓

## Minimum BMPs Covered

	Good Housekeeping	✓
	Preventative Maintenance	✓
	Spill and Leak Prevention and Response	✓
	Material Handling & Waste Management	
	Erosion and Sediment Controls	
	Employee Training Program	✓
	Quality Assurance Record Keeping	✓



- ☐ Provide an adequate number of litter receptacles.
- ☐ Clean out and cover litter receptacles frequently to prevent spillage.



## **Preventative Maintenance**

### *Inspection*

Have designated personnel conduct inspections of parking facilities and stormwater conveyance systems associated with parking facilities on a regular basis.

- ☐ Inspect cleaning equipment/sweepers for leaks on a regular basis.

### *Surface Cleaning*

- ☐ Use dry cleaning methods (e.g., sweeping, vacuuming) to prevent the discharge of pollutants into the stormwater conveyance system if possible.
- ☐ Establish frequency of public parking lot sweeping based on usage and field observations of waste accumulation.
- ☐ Sweep all parking lots at least once before the onset of the wet season.
- ☐ Dispose of parking lot sweeping debris and dirt at a landfill.
- ☐ Follow the procedures below if water is used to clean surfaces:
  - ✓ Block the storm drain or contain runoff.
  - ✓ Collect and pump wash water to the sanitary sewer or discharge to a pervious surface. Do not allow wash water to enter storm drains.
- ☐ Follow the procedures below when cleaning heavy oily deposits:
  - ✓ Clean oily spots with absorbent materials.
  - ✓ Use a screen or filter fabric over inlet, then wash surfaces.
  - ✓ Do not allow discharges to the storm drain.
  - ✓ Vacuum/pump discharges to a tank or discharge to sanitary sewer.
  - ✓ Dispose of spilled materials and absorbents appropriately.

### *Surface Repair*

- ☐ Check local ordinance for SUSMP/LID ordinance.
- ☐ Preheat, transfer or load hot bituminous material away from storm drain inlets.
- ☐ Apply concrete, asphalt, and seal coat during dry weather to prevent contamination from contacting stormwater runoff.
- ☐ Cover and seal nearby storm drain inlets where applicable (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc. Leave covers in



place until job is complete and all water from emulsified oil sealants has drained or evaporated. Clean any debris from these covered manholes and drains for proper disposal.

- ☐ Use only as much water as necessary for dust control during sweeping to avoid runoff.
- ☐ Catch drips from paving equipment that is not in use with pans or absorbent material placed under the machines. Dispose of collected material and absorbents properly.



## ***Spill Response and Prevention Procedures***

- ☐ Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- ☐ Place a stockpile of spill cleanup materials where it will be readily accessible or at a central location.
- ☐ Clean up fluid spills immediately with absorbent rags or material.
- ☐ Dispose of spilled material and absorbents properly.



## ***Employee Training Program***

- ☐ Provide regular training to field employees and/or contractors regarding cleaning of paved areas and proper operation of equipment.
- ☐ Train employees and contractors in proper techniques for spill containment and cleanup.
- ☐ Use a training log or similar method to document training.



## ***Quality Assurance and Record Keeping***

- ☐ Keep accurate maintenance logs that document minimum BMP activities performed for parking area maintenance, types and quantities of waste disposed of, and any improvement actions.
- ☐ Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- ☐ Establish procedures to complete logs and file them in the central office.

## **Potential Capital Facility Costs and Operation & Maintenance Requirements**

### ***Facilities***

- ☐ Capital investments may be required at some sites to purchase sweeping equipment, train sweeper operators, install oil/water/sand separators, or implement advanced BMPs. These costs can vary significantly depending upon site conditions and the amount of BMPs required.

## ***Maintenance***

- ❑ Sweep and clean parking lots regularly to minimize pollutant transport into storm drains from stormwater runoff.
- ❑ Clean out oil/water/sand separators regularly, especially after heavy storms.
- ❑ Maintain advanced BMPs such as vegetated swales, infiltration trenches, or detention basins as appropriate. Refer to the treatment control fact sheets for more information.

## **Supplemental Information**

### ***Advanced BMPs***

Some parking areas may require advanced BMPs to further reduce pollutants in stormwater runoff, and a few examples are listed below. Refer to the Treatment Control Fact Sheets and the New Development and Redevelopment Manual for more information.

- ❑ When possible, direct sheet runoff to flow into biofilters (vegetated strip and swale) and/or infiltration devices.
- ❑ Utilize sand filters or oleophilic collectors for oily waste in low quantities.
- ❑ Arrange rooftop drains to prevent drainage directly onto paved surfaces.
- ❑ Design lot to include semi-permeable hardscape.

## **References and Resources**

City of Seattle, Seattle Public Utilities Department of Planning and Development, 2009. *Stormwater Manual Vol. 1 Source Control Technical Requirements Manual*.

California Stormwater Quality Association, 2003. *New Development and Redevelopment Stormwater Best Management Practice Handbook*. Available online at: <https://www.casqa.org/resources/bmp-handbooks/new-development-redevelopment-bmp-handbook>.

Kennedy/Jenks Consultants, 2007. *The Truckee Meadows Industrial and Commercial Storm Water Best Management Practices Handbook*. Available online at: [http://www.cityofsparks.us/sites/default/files/assets/documents/env-control/construction/TM-I-C\\_BMP\\_Handbook\\_2-07-final.pdf](http://www.cityofsparks.us/sites/default/files/assets/documents/env-control/construction/TM-I-C_BMP_Handbook_2-07-final.pdf).

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: <http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities>.



Pollution from Surface Cleaning Folder, 1996, 2003. Bay Area Stormwater Management Agencies Association. Available online at:

<http://basmaa.org/Portals/o/documents/pdf/Pollution%20from%20Surface%20Cleaning.pdf>.

Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at:

<http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf>.

The Storm Water Managers Resource Center, <http://www.stormwatercenter.net>.

US EPA. *Post-Construction Stormwater Management in New Development and Redevelopment*. BMP Fact Sheets. Available online at:

[http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min\\_measure&min\\_measure\\_id=5](http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=5).

# Drainage System Maintenance SC-44

## Description

As a consequence of its function, the stormwater drainage facilities on site convey stormwater that may contain certain pollutants either to the offsite conveyance system that collects and transports urban runoff and stormwater, or directly to receiving waters. The protocols in this fact sheet are intended to reduce pollutants leaving the site to the offsite drainage infrastructure or to receiving waters through proper on-site conveyance system operation and maintenance. The targeted constituents will vary depending on site characteristics and operations.

## Approach

Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

### General Pollution Prevention Protocols

- ☐ Maintain catch basins, stormwater inlets, and other stormwater conveyance structures on a regular basis to remove pollutants, reduce high pollutant concentrations during the first flush of storms, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capacity, and ensure the system functions properly hydraulically to avoid flooding.
- ☐ Develop and follow a site specific drainage system maintenance plan that describes maintenance locations, methods, required equipment, water sources, sediment collection areas, disposal requirements, and any other pertinent information.



### Good Housekeeping

#### Illicit Connections and Discharges

- ☐ Look for evidence of illegal discharges or illicit connections during routine maintenance of conveyance system and drainage structures:

## Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize

## Targeted Constituents

Sediment	✓
Nutrients	✓
Trash	✓
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓

## Minimum BMPs Covered

	Good Housekeeping	✓
	Preventative Maintenance	✓
	Spill and Leak Prevention and Response	✓
	Material Handling & Waste Management	
	Erosion and Sediment Controls	
	Employee Training Program	✓
	Quality Assurance Record Keeping	✓



# Drainage System Maintenance SC-44

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- ✓ Identify evidence of spills such as paints, discoloring, odors, etc.
- ✓ Record locations of apparent illegal discharges/illicit connections.
- ✓ Track flows back to potential discharges and conduct aboveground inspections. This can be done through visual inspection of upgradient manholes or alternate techniques including zinc chloride smoke testing, fluorometric dye testing, physical inspection testing, or television camera inspection.
- ✓ Eliminate the discharge once the origin of flow is established.
- Stencil or demarcate storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as “Dump No Waste Drains to Stream” or similar stenciled next to them to warn against ignorant or intentional dumping of pollutants into the storm drainage system.
- Refer to fact sheet SC-10 Non-Stormwater Discharges for additional information.

## *Illegal Dumping*

- Inspect and clean up hot spots and other storm drainage areas regularly where illegal dumping and disposal occurs.
- Establish a system for tracking incidents. The system should be designed to identify the following:
  - ✓ Illegal dumping hot spots;
  - ✓ Types and quantities (in some cases) of wastes;
  - ✓ Patterns in time of occurrence (time of day/night, month, or year);
  - ✓ Mode of dumping (abandoned containers, “midnight dumping” from moving vehicles, direct dumping of materials, accidents/spills); and
  - ✓ Responsible parties.
- Post “No Dumping” signs in problem areas with a phone number for reporting dumping and disposal. Signs should also indicate fines and penalties for illegal dumping.
- Refer to fact sheet SC-10 Non-Stormwater Discharges for additional information.



## **Preventative Maintenance**

### *Catch Basins/Inlet Structures*

- Staff should regularly inspect facilities to ensure compliance with the following:
  - ✓ Immediate repair of any deterioration threatening structural integrity.
  - ✓ Cleaning before the sump is 40% full. Catch basins should be cleaned as frequently as needed to meet this standard.



# Drainage System Maintenance **SC-44**

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- ☐ Clean catch basins, storm drain inlets, and other conveyance structures before the wet season to remove sediments and debris accumulated during the summer.
- ☐ Conduct inspections more frequently during the wet season for problem areas where sediment or trash accumulates more often. Prioritize storm drain inlets; clean and repair as needed.
- ☐ Keep accurate logs of the number of catch basins cleaned.
- ☐ Store wastes collected from cleaning activities of the drainage system in appropriate containers or temporary storage sites in a manner that prevents discharge to the storm drain.
- ☐ Dewater the wastes if necessary with outflow into the sanitary sewer if permitted. Water should be treated with an appropriate filtering device prior to discharge to the sanitary sewer. If discharge to the sanitary sewer is not allowed, water should be pumped or vacuumed to a tank and properly disposed. Do not dewater near a storm drain or stream.

## *Storm Drain Conveyance System*

- ☐ Locate reaches of storm drain with deposit problems and develop a flushing schedule that keeps the pipe clear of excessive buildup.
- ☐ Collect and pump flushed effluent to the sanitary sewer for treatment whenever possible.

## *Pump Stations*

- ☐ Clean all storm drain pump stations prior to the wet season to remove silt and trash.
- ☐ Do not allow discharge to reach the storm drain system when cleaning a storm drain pump station or other facility.
- ☐ Conduct routine maintenance at each pump station.
- ☐ Inspect, clean, and repair as necessary all outlet structures prior to the wet season.

## *Open Channel*

- ☐ Modify storm channel characteristics to improve channel hydraulics, increase pollutant removals, and enhance channel/creek aesthetic and habitat value.
- ☐ Conduct channel modification/improvement in accordance with existing laws. Any person, government agency, or public utility proposing an activity that will change the natural state of any river, stream, or lake in California, must enter into a Stream or Lake Alteration Agreement with the Department of Fish and Wildlife. The developer-applicant should also contact local governments (city, county, special districts), other state agencies (SWRCB, RWQCB, Department of Forestry, Department of Water Resources), and Army Corps of Engineers and USFWS.



## **Spill Response and Prevention Procedures**

- ☐ Keep your spill prevention control plan up-to-date.



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- ☐ Investigate all reports of spills, leaks, and/or illegal dumping promptly.
- ☐ Place a stockpile of spill cleanup materials where it will be readily accessible or at a central location.
- ☐ Clean up all spills and leaks using “dry” methods (with absorbent materials and/or rags) or dig up, remove, and properly dispose of contaminated soil.



## ***Employee Training Program***

- ☐ Educate employees about pollution prevention measures and goals.
- ☐ Train employees how to properly handle and dispose of waste using the source control BMPs described above.
- ☐ Train employees and subcontractors in proper hazardous waste management.
- ☐ Use a training log or similar method to document training.
- ☐ Ensure that employees are familiar with the site’s spill control plan and/or proper spill cleanup procedures.
- ☐ Have staff involved in detection and removal of illicit connections trained in the following:
  - ✓ OSHA-required Health and Safety Training (29 CFR 1910.120) plus annual refresher training (as needed).
  - ✓ OSHA Confined Space Entry training (Cal-OSHA Confined Space, Title 8 and Federal OSHA 29 CFR 1910.146).
  - ✓ Procedural training (field screening, sampling, smoke/dye testing, TV inspection).



## ***Quality Assurance and Record Keeping***

- ☐ Keep accurate maintenance logs that document minimum BMP activities performed for drainage system maintenance, types and quantities of waste disposed of, and any improvement actions.
- ☐ Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- ☐ Keep accurate logs of illicit connections, illicit discharges, and illegal dumping into the storm drain system including how wastes were cleaned up and disposed.
- ☐ Establish procedures to complete logs and file them in the central office.

## **Potential Limitations and Work-Arounds**

Provided below are typical limitations and recommended “work-arounds” for drainage system maintenance:

# **Drainage System Maintenance SC-44**

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- ❑ Clean-up activities may create a slight disturbance for local aquatic species. Access to items and material on private property may be limited. Trade-offs may exist between channel hydraulics and water quality/riparian habitat. If storm channels or basins are recognized as wetlands, many activities, including maintenance, may be subject to regulation and permitting.
  - ✓ Perform all maintenance onsite and do not flush accumulated material downstream to private property or riparian habitats.
- ❑ Storm drain flushing is most effective in small diameter pipes (36-inch diameter pipe or less, depending on water supply and sediment collection capacity). Other considerations associated with storm drain flushing may include the availability of a water source, finding a downstream area to collect sediments, and liquid/sediment disposal.
  - ✓ Develop and follow a site specific drainage system maintenance plan that describes maintenance locations, methods, required equipment, water sources, sediment collection areas, disposal requirements, and any other pertinent information.
- ❑ Regulations may include adoption of substantial penalties for illegal dumping and disposal.
  - ✓ Do not dump illegal materials anywhere onsite.
  - ✓ Identify illicit connections, illicit discharge, and illegal dumping.
  - ✓ Cleanup spills immediately and properly dispose of wastes.
- ❑ Local municipal codes may include sections prohibiting discharge of soil, debris, refuse, hazardous wastes, and other pollutants into the sanitary sewer system.
  - ✓ Collect all materials and pollutants accumulated in drainage system and dispose of according to local regulations.
  - ✓ Install debris excluders in areas with a trash TMDL.

## **Potential Capital Facility Costs and Operation & Maintenance Requirements**

### ***Facilities***

- ❑ Capital costs will vary substantially depending on the size of the facility and characteristics of the drainage system. Significant capital costs may be associated with purchasing water trucks, vacuum trucks, and any other necessary cleaning equipment or improving the drainage infrastructure to reduce the potential .
- ❑ Developing and implementing a site specific drainage system maintenance plan will require additional capital if a similar program is not already in place.

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## ***Maintenance***

- Two-person teams may be required to clean catch basins with vacuum trucks.
- Teams of at least two people plus administrative personnel are required to identify illicit discharges, depending on the complexity of the storm sewer system.
- Arrangements must be made for proper disposal of collected wastes.
- Technical staff are required to detect and investigate illegal dumping violations.
- Methods used for illicit connection detection (smoke testing, dye testing, visual inspection, and flow monitoring) can be costly and time-consuming. Site-specific factors, such as the level of impervious area, the density and ages of buildings, and type of land use will determine the level of investigation necessary.

## **Supplemental Information**

### ***Storm Drain Flushing***

Flushing is a common maintenance activity used to improve pipe hydraulics and to remove pollutants in storm drainage systems. Flushing may be designed to hydraulically convey accumulated material to strategic locations, such as an open channel, another point where flushing will be initiated, or the sanitary sewer and the treatment facilities, thus preventing re-suspension and overflow of a portion of the solids during storm events. Flushing prevents “plug flow” discharges of concentrated pollutant loadings and sediments. Deposits can hinder the designed conveyance capacity of the storm drain system and potentially cause backwater conditions in severe cases of clogging.

Storm drain flushing usually takes place along segments of pipe with grades that are too flat to maintain adequate velocity to keep particles in suspension. An upstream manhole is selected to place an inflatable device that temporarily plugs the pipe. Further upstream, water is pumped into the line to create a flushing wave. When the upstream reach of pipe is sufficiently full to cause a flushing wave, the inflated device is rapidly deflated with the assistance of a vacuum pump, thereby releasing the backed up water and resulting in the cleaning of the storm drain segment.

To further reduce impacts of stormwater pollution, a second inflatable device placed well downstream may be used to recollect the water after the force of the flushing wave has dissipated. A pump may then be used to transfer the water and accumulated material to the sanitary sewer for treatment. In some cases, an interceptor structure may be more practical or required to recollect the flushed waters.

It has been found that cleansing efficiency of periodic flush waves is dependent upon flush volume, flush discharge rate, sewer slope, sewer length, sewer flow rate, sewer diameter, and population density. As a rule of thumb, the length of line to be flushed should not exceed 700 feet. At this maximum recommended length, the percent removal efficiency ranges between 65-75% for organics and 55-65% for dry weather grit/inorganic material. The percent removal efficiency drops rapidly beyond that. Water is commonly supplied by a water truck, but fire hydrants can also supply water. To make the best use of water, it is recommended that reclaimed water be used if allowed or that fire hydrant line flushing coincide with storm sewer flushing.

# **Drainage System Maintenance SC-44**

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## **References and Resources**

City of Seattle, Seattle Public Utilities Department of Planning and Development, 2009. *Stormwater Manual Vol. 1 Source Control Technical Requirements Manual*.

Knox County Tennessee *Stormwater Management Manual* Chapter 5 Drainage System Maintenance, 2008. Available online at:  
[http://www.knoxcounty.org/stormwater/manual/Volume%201/knoxco\\_swmm\\_v1\\_chapter5\\_jan2008.pdf](http://www.knoxcounty.org/stormwater/manual/Volume%201/knoxco_swmm_v1_chapter5_jan2008.pdf).

US EPA. Storm Drain System Cleaning, 2012. Available online at:  
<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Button=detail&bmp=102>.



## General Description

An infiltration basin is a shallow impoundment that is designed to infiltrate stormwater. Infiltration basins store stormwater runoff until it gradually exfiltrates into the underlying soil. Pollutant removal occurs through the infiltration of runoff and the adsorption of pollutants into the soil and vegetation. Additional benefits include:

- Reduced runoff volume and attenuation of peak flows, and
- Facilitated groundwater recharge thus helping to maintain low flows in stream systems.

## Inspection/Maintenance Considerations

The use and regular maintenance of pretreatment BMPs will significantly minimize maintenance requirements for the basin. Installing vegetated swales or a sediment forebay upstream from the infiltration basin can provide effective pretreatment and reduce maintenance.

Spill response procedures and controls should be implemented to prevent spills from reaching the infiltration system. This BMP may require groundwater monitoring, and basins cannot be put into operation until the upstream tributary area is stabilized.

## Advanced BMPs Covered



## Maintenance Concerns

- *Vector Control*
- *Clogged soil or outlet structures*
- *Vegetation/Landscape Maintenance*
- *Groundwater contamination*
- *Accumulation of metals*
- *Aesthetics*

## Targeted Constituents

<i>Sediment</i>	■
<i>Nutrients</i>	■
<i>Trash</i>	■
<i>Metals</i>	■
<i>Bacteria</i>	■
<i>Oil and Grease</i>	■
<i>Organics</i>	■

## Legend (Removal Effectiveness)

● Low ▲ Medium ■ High

\* Requires Pretreatment

*Note: The removal effectiveness ratings shown in the table are for properly designed, sited, and maintained BMPs; some configurations will have variations in pollutant effectiveness.*



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Inspection Activities	Suggested Frequency
<ul style="list-style-type: none"> <li><input type="checkbox"/> Observe drain time for a storm after completion or modification of the facility to confirm that the desired drain time has been obtained.</li> <li><input type="checkbox"/> Newly established vegetation should be inspected several times to determine if any landscape maintenance (reseeding, irrigation, etc.) is necessary.</li> <li><input type="checkbox"/> Inspect for upslope or adjacent contributing sediment sources and ensure that pretreatment systems are in place.</li> </ul>	Post construction and semi-annually (beginning and end of rainy season)
<ul style="list-style-type: none"> <li><input type="checkbox"/> Inspect for the following issues: differential accumulation of sediment, signs of wetness or damage to structures, erosion of the basin floor, dead or dying grass on the bottom, condition of riprap, drain time, signs of petroleum hydrocarbon contamination, standing water, trash and debris, sediment accumulation, slope stability, pretreatment device condition</li> </ul>	Semi-annually and after extreme events
Maintenance Activities	Suggested Frequency
<ul style="list-style-type: none"> <li><input type="checkbox"/> Factors responsible for clogging should be repaired immediately.</li> </ul>	Immediately
<ul style="list-style-type: none"> <li><input type="checkbox"/> Remove invasive weeds once monthly during the first two growing seasons.</li> </ul>	Monthly during growing season
<ul style="list-style-type: none"> <li><input type="checkbox"/> Stabilize eroded banks with erosion control mat or mulch and revegetate.</li> <li><input type="checkbox"/> Repair undercut and eroded areas at inflow and outflow structures.</li> <li><input type="checkbox"/> Maintain access to the basin for regular maintenance activities.</li> <li><input type="checkbox"/> Mow as appropriate for vegetative cover species.</li> <li><input type="checkbox"/> Monitor health of vegetation and replace as necessary.</li> <li><input type="checkbox"/> Control mosquitoes as necessary.</li> <li><input type="checkbox"/> Remove litter and debris from infiltration basin area as required.</li> <li><input type="checkbox"/> Trim vegetation to prevent establishment of woody vegetation that decreases storage volume.</li> </ul>	Standard maintenance (as needed)
<ul style="list-style-type: none"> <li><input type="checkbox"/> Mow and remove grass clippings, litter, and debris.</li> <li><input type="checkbox"/> Replant eroded or barren spots to prevent erosion and accumulation of sediment.</li> </ul>	Semi-annual
<ul style="list-style-type: none"> <li><input type="checkbox"/> Scrape bottom and remove sediment when accumulated sediment reduces original infiltration rate by 25-50%. Restore original cross-section and infiltration rate. Properly dispose of sediment.</li> <li><input type="checkbox"/> Seed or sod to restore ground cover.</li> <li><input type="checkbox"/> Disc or otherwise aerate bottom.</li> <li><input type="checkbox"/> Dethatch basin bottom.</li> </ul>	3-5 year maintenance

If there are actual signs of clogging or significant loss of infiltrative capacity the following maintenance activities should be considered:

- ☐ Mechanically de-thatching and/or aerating the top soils along the sides and bottom of the basin.
- ☐ Tilling or dicing to scarify the bottom of the basin

These activities should be on an “as-needed” rather than on a routine basis. Always remove deposited sediments before scarification, and use a hand-guided rotary tiller, if possible, or a disc harrow pulled by a light tractor.

Clogged infiltration basins with surface standing water can become a breeding area for mosquitoes and midges. Maintenance efforts associated with infiltration basins should include frequent inspections to ensure that water infiltrates into the subsurface completely (recommended infiltration rate of 96 hours or less) and that vegetation is carefully managed to prevent creating mosquito and other vector habitats.

## Additional Information

In most cases, surface sediment removed from an infiltration basin during periodic maintenance to restore capacity does not contain toxic materials (e/g metals, oil and grease, or organics) at levels posing a hazardous concern. Studies to date indicate that pond sediments are generally below toxicity limits and can be safely landfilled or disposed onsite. Onsite sediment disposal is always preferable (if local authorities permit) as long as the sediments are deposited away from the perimeter to prevent their reentry into the basin. Sediments should be tested for toxic materials in compliance with current landfill requirements and disposed of properly.

Maintenance activities should use lightweight equipment (e.g. bobcat), which will not compact the underlying soil to remove the top layer of sediment. The remaining soil should be tilled and revegetated as soon as possible.

Sediment removal within the basin should be performed when the sediment is dry enough so that it is cracked and readily separates from the basin floor. This minimizes intermixing of the finer sediment with underlying coarser material on the basin floor.

Special maintenance considerations are required maintain infiltration basins effectiveness in cold climates. Treating runoff containing salt-based deicers in an infiltration basin may reduce soil fertility cause vegetation to fail. Incorporating mulch into the soil can help to mitigate this problem. Infiltration basins should not be used to store snow plowed from highways or parking lots. The sand in this snow can clog the basin. In addition, the chlorides and other pollutants can contaminate the groundwater.

## References

California Department of Transportation. *Treatment BMP Technology Report (CTSW-RT-09-239.06)*, 2010. Available online at:  
<http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-09-239-06.pdf>.

California Stormwater Quality Association. *Stormwater Best Management Practice Handbook, New Development and Redevelopment*, 2003. Available online at:  
<https://www.casqa.org/resources/bmp-handbooks/new-development-redevelopment-bmp-handbook>.

Riverside County Flood Control and Water Conservation District. *Riverside County Design Handbook for Low Impact Development Best Management Practices*, 2011.

Available online at:

[http://reflood.org/downloads/NPDES/Documents/LIDManual/LID BMP Design Handbook.pdf](http://reflood.org/downloads/NPDES/Documents/LIDManual/LID_BMP_Design_Handbook.pdf).

San Francisco Public Utilities Commission, et al. San Francisco Stormwater Design Guidelines. Appendix A, Stormwater BMP Fact Sheets, 2010. Available online at:

<http://www.sfwater.org/modules/showdocument.aspx?documentid=2778>.

Stormwater Managers Resource Center. <http://www.stormwatercenter.net>.

Stormwater Mangers Resource Center, Stormwater Practices for Cold Climates.

<http://www.stormwatercenter.net/Cold%20Climates/cold-climates.htm>.

Tahoe Regional Planning Agency. Best Management Practices Handbook, 2012.

Available online at:

<http://www.tahoebmp.org/Documents/2012%20BMP%20Handbook.pdf>.

U.S. Environmental Protection Agency, Post-Construction Stormwater Management in New Development and Redevelopment. BMP Fact Sheets. Available online

at:[http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min\\_measure&min\\_measure\\_id=5](http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=5).

Ventura Countywide Stormwater Quality Management Program. *Technical Guidance Manual for Stormwater Quality Control Measures*, 2010. Available online

at:[http://www.vcstormwater.org/documents/workproducts/technicalguidancemanual/2010revisions/Ventura%20Technical%20Guidance%20Document\\_5-6-10.pdf](http://www.vcstormwater.org/documents/workproducts/technicalguidancemanual/2010revisions/Ventura%20Technical%20Guidance%20Document_5-6-10.pdf).

Watershed Management Institute, Inc. *Operation, Maintenance, and Management of Stormwater Management Systems*, 1997. Available online at:

<http://www.stormwater.ucf.edu/research/stormwaterOMM/stormwateromm.pdf>.



## General Description

Harvest and reuse refers to the capture of stormwater runoff in a holding pond or vault and subsequent use of the captured volume for irrigation of landscape or natural pervious areas. This technology is very effective as a stormwater quality practice in that, for the captured water quality volume, it provides virtually no discharge to receiving waters thereby greatly reducing pollutant loads from industrial sources.

This technology mimics natural undeveloped watershed conditions wherein the vast majority of the rainfall volume during smaller rainfall events is infiltrated through the soil profile. Their main advantage over other infiltration technologies is the use of an irrigation system to spread the runoff over a larger area for infiltration and/or to satisfy evapotranspiration demands of vegetation including ornamental vegetation on the site. This allows them to be used in areas with low permeability soils.

Stormwater harvesting typically utilizes rain barrels or cisterns.

- Rain barrels are small containers, typically ranging from 50 to 100 gallons installed adjacent to individual downspouts to capture rainwater runoff from roofs. The stored water can be used for irrigation, vehicle washing, or other non-potable applications. Rain barrels are inexpensive, easy to install and maintain, and well suited to small-scale sites.
- Cisterns are typically much larger than rain barrels, ranging from 1,000 gallons for small installations to millions of gallons beneath large facilities. They can be installed above or below ground, or even on the roof, depending upon site conditions.

## Advanced BMPs Covered



## Maintenance Concerns

- *Sediment Accumulation*
- *Mechanical malfunction*
- *Vector Control*

## Targeted Constituents

<i>Sediment</i>	■*
<i>Nutrients</i>	■*
<i>Trash</i>	■*
<i>Metals</i>	■*
<i>Bacteria</i>	■*
<i>Oil and Grease</i>	■*
<i>Organics</i>	■*

## Legend (Removal Effectiveness)

● Low ■ High ▲ Medium

\* Requires Pretreatment

*Note: The removal effectiveness ratings shown in the table are for properly designed, sited, and maintained BMPs; some configurations will have variations in pollutant effectiveness.*



The use of harvested rainwater for irrigation may utilize a simple gravity system for small systems or use pumps for larger systems. The pump and wet well should be automated with a rainfall sensor to provide irrigation only during periods when required infiltration rates can be realized.

Inspection Activities	Suggested Frequency
<ul style="list-style-type: none"> <li>❑ The irrigation system should be inspected and tested (or observed while in operation) to verify proper operation regularly during periods of use.</li> <li>❑ Any leaks, broken spray heads, or other malfunctions with the irrigation system should be repaired immediately.</li> </ul>	Frequently (3-6 times per year)
<ul style="list-style-type: none"> <li>❑ Inspect gutter systems, pipes, and storage facilities for accumulated sediment and debris and remove as necessary.</li> <li>❑ Inspect rain barrels, cisterns, and other water storage containers to ensure they remain mosquito-proof. Repair damaged or missing screens or other mosquito-preventive measures. Contact the local mosquito and vector control agency if mosquito breeding is observed or suspected.</li> </ul>	Semi-annually (beginning and end of rainy season)
Maintenance Activities	Suggested Frequency
<ul style="list-style-type: none"> <li>❑ The upper stage, side slopes, and bottom of a retention basin should be mowed regularly to control weeds and discourage woody growth that reduces storage volumes.</li> </ul>	Standard maintenance (as needed)
<ul style="list-style-type: none"> <li>❑ Sediment must be removed from inlet structure/sediment forebay, and from around the sump area at least 2 times annually or when depth reaches 3 inches. When sediment in other areas of the basin fills the volume allocated for sediment accumulation, all sediment should be removed and disposed of properly.</li> <li>❑ Grass areas in and around basins must be mowed at least twice annually to limit vegetation height to 18 inches. More frequent mowing to maintain aesthetic appeal may be necessary in landscaped areas. When mowing is performed, a mulching mower should be used, or grass clippings should be caught and removed.</li> <li>❑ Debris and litter will accumulate near the basin pump and should be removed during regular mowing operations and inspections. Particular attention should be paid to floating debris that can eventually clog the irrigation system.</li> <li>❑ For underground cisterns, ensure that manhole is accessible, operational, and secure.</li> </ul>	Semi-annual
<ul style="list-style-type: none"> <li>❑ The pond side slopes and embankment may periodically suffer from slumping and erosion, although this should not occur often if the soils are properly compacted during construction. Re-grading and re-vegetation may be required to correct the problems.</li> </ul>	Infrequently

## Inspection/Maintenance Considerations

Pollutant removal rates are estimated to be nearly 100% for all pollutants in the captured and irrigated stormwater volume. However, relatively frequent inspection and maintenance is necessary to verify proper operation of these facilities and to prevent accumulated sediment and debris from clogging conveyance lines. Some maintenance concerns are specific to the type of irrigation system or practice used.

## Additional Information

Rain barrels, cisterns, sumps, and vaults that store water can become a nuisance due to mosquito and other vector breeding. Preventing mosquito access to standing water in rain barrels and above-ground cisterns can often be achieved by sealing openings with stainless steel wire mesh (1/16" openings or less). Sealing below-ground storage systems against mosquitoes can be more difficult depending on the design and the number of potential entry points. Open storage structures such as ponds and retention basins (see appropriate fact sheets) will require routine preventative maintenance plans to minimize mosquito production. Certain systems may require routine inspection and treatment by local mosquito and vector control agencies.

Special considerations are required for harvest and reuse to be effective in cold climates. Underground or indoor systems are more appropriate for year-round use, but these systems are more difficult to design, construct, and maintain.

## References

California Stormwater Quality Association. *Stormwater Best Management Practice Handbook, New Development and Redevelopment*, 2003. Available online at: <https://www.casqa.org/resources/bmp-handbooks/new-development-redevelopment-bmp-handbook>.

Riverside County Flood Control and Water Conservation District. *Riverside County Design Handbook for Low Impact Development Best Management Practices*, 2011. Available online at: [http://rcflood.org/downloads/NPDES/Documents/LIDManual/LID BMP Design Handbook.pdf](http://rcflood.org/downloads/NPDES/Documents/LIDManual/LID_BMP_Design_Handbook.pdf).

San Francisco Public Utilities Commission, et al. San Francisco Stormwater Design Guidelines. Appendix A, Stormwater BMP Fact Sheets, 2010. Available online at: <http://www.sfwater.org/modules/showdocument.aspx?documentid=2778>.

Santa Clara Valley Urban Runoff Pollution Prevention Program. <http://www.scvurppp.w2k.com/>.

Stormwater Mangers Resource Center, Stormwater Practices for Cold Climates. Available online at: <http://www.stormwatercenter.net/Cold%20Climates/cold-climates.htm>.

Tahoe Regional Planning Agency. *Best Management Practices Handbook*, 2012. Available online at: <http://www.tahoebmp.org/Documents/2012%20BMP%20Handbook.pdf>.

Ventura Countywide Stormwater Quality Management Program. *Technical Guidance Manual for Stormwater Quality Control Measures*, 2010. Available online at: [http://www.vcstormwater.org/documents/workproducts/technicalguidancemanual/2010revisions/Ventura%20Technical%20Guidance%20Document\\_5-6-10.pdf](http://www.vcstormwater.org/documents/workproducts/technicalguidancemanual/2010revisions/Ventura%20Technical%20Guidance%20Document_5-6-10.pdf).

## General Description

Dry extended detention ponds (a.k.a. dry ponds, extended detention basins, detention ponds, extended detention ponds) are basins whose outlets have been designed to draw down the stormwater runoff from a water quality design storm for some minimum time (e.g., 48 hours) to allow particles and associated pollutants to settle. Unlike wet ponds, these facilities do not have a large permanent pool. They can also be used to provide flood control by including additional flood detention storage. Considerable stormwater volume reduction can also occur, depending on the infiltration capacity of the subsoil.

## Inspection/Maintenance Considerations

Inspections should be conducted semi-annually and after significant storm events to identify potential problems early. Most maintenance efforts will need to be directed toward vegetation management and vector control, which may focus on basic housekeeping practices such as removal of debris accumulations and vegetation management to ensure that the basin dewateres completely (recommended 48 hour residence time or less) to prevent creating mosquito and other vector habitats.

If infiltration is desired for stormwater reduction, the following additional maintenance may be required to maintain infiltrative capacity:

- ☐ Mechanically de-thatching and/or aerating the top soils along the sides and bottom of the basin;
- ☐ Tilling or dicing to scarify the bottom of the basin; and
- ☐ Maintaining adequate vegetative cover.

## Advanced BMPs Covered



## Maintenance Concerns

- *Accumulation of Metals and Toxics*
- *Clogged Soil Outlet Structures*
- *Vegetation/Landscape Maintenance*
- *Erosion*
- *Vector Control*

## Targeted Constituents

<i>Sediment</i>	▲
<i>Nutrients</i>	●
<i>Trash</i>	■
<i>Metals</i>	▲
<i>Bacteria</i>	▲
<i>Oil and Grease</i>	▲
<i>Organics</i>	▲

## Legend (Removal Effectiveness)

● Low ■ High ▲ Medium

\* Requires Pretreatment

*Note: The removal effectiveness ratings shown in the table are for properly designed, sited, and maintained BMPs; some configurations will have variations in pollutant effectiveness.*





Refer to TC-11 Infiltration Basin for further information.

Inspection Activities	Suggested Frequency
<ul style="list-style-type: none"> <li><input type="checkbox"/> Inspect after several storm events for bank stability, vegetation growth, and to determine if the desired residence time has been achieved.</li> <li><input type="checkbox"/> Inspect outlet structure for evidence of clogging or outflow release velocities that are greater than design flow.</li> </ul>	Post construction
<ul style="list-style-type: none"> <li><input type="checkbox"/> Inspect for the following issues: differential settlement, cracking, erosion of pond banks or bottom, leakage, tree growth on the embankment, the condition of the riprap in the inlet, clogging of outlet and pilot channels, standing water, slope stability, presence of burrows, sediment accumulation in the basin, forebay, and outlet structures, trash and debris, and the vigor and density of vegetation on the basin side slopes and floor.</li> </ul>	Semi-annual, after significant storms, or more frequent
<ul style="list-style-type: none"> <li><input type="checkbox"/> Inspect for the following issues: subsidence, damage to the emergency spillway, inadequacy of the inlet/outlet channel erosion control measures, changes in the condition of the pilot channel, accumulated sediment volume, and semi-annual inspection items.</li> </ul>	Annual
<ul style="list-style-type: none"> <li><input type="checkbox"/> During inspections, changes to the extended storage pond or the contributing watershed should be noted, as these may affect basin performance.</li> </ul>	Annual inspection
Maintenance Activities	Suggested Frequency
<ul style="list-style-type: none"> <li><input type="checkbox"/> If necessary, modify the outlet orifice to achieve design values if inspection indicates modifications are necessary.</li> <li><input type="checkbox"/> Repair undercut or eroded areas.</li> <li><input type="checkbox"/> Mow side slopes for aesthetics and to remove woody debris that reduces storage volume.</li> <li><input type="checkbox"/> Maintain vegetation in and around basin to prevent any erosion and minimize aesthetic concerns. Minimize use of fertilizers and pesticides. Reseed if necessary.</li> <li><input type="checkbox"/> Remove litter and debris.</li> <li><input type="checkbox"/> Make structural changes or repairs as needed to eliminate pools of water that stand longer than 96 hrs to prevent mosquito production, particularly during the warmer months of the year. Identify and eliminate sources of non-stormwater runoff that feed standing water pools. Coordinate with the local mosquito and vector control agency to control mosquitoes, if necessary.</li> </ul>	Standard Maintenance (As needed)
<ul style="list-style-type: none"> <li><input type="checkbox"/> Remove accumulated trash and debris from the basin, around the riser pipe, side slopes, embankment, emergency spillway, and outflow trash racks. The frequency of this activity may be altered to meet specific site conditions.</li> <li><input type="checkbox"/> Trim vegetation at the beginning and end of the wet season to prevent establishment of woody vegetation and for aesthetic and vector reasons.</li> </ul>	Semi-annual, or more frequent, as needed
<ul style="list-style-type: none"> <li><input type="checkbox"/> Seed or sod to restore dead or damaged ground cover.</li> <li><input type="checkbox"/> Repair erosion to banks and bottom as required.</li> </ul>	Annual maintenance (as needed)
<ul style="list-style-type: none"> <li><input type="checkbox"/> Supplement vegetation if a significant portion have not been established (at least 50% of the surface area).</li> <li><input type="checkbox"/> Remove nuisance plant species.</li> </ul>	Annual maintenance (if needed)
<ul style="list-style-type: none"> <li><input type="checkbox"/> Remove sediment from the forebay to reduce frequency of main basin cleaning.</li> </ul>	3- to 5-year

<input type="checkbox"/> Remove sediment from the basin bottom and thatch, aerate, or scarify soils to maintain infiltrative capacity.	maintenance
<input type="checkbox"/> Monitor sediment accumulation and remove accumulated sediment and regrade about every 10 years or when the accumulated sediment volume exceeds 10-20% of the basin volume, or when accumulation reaches 6 inches or if resuspension is observed. Clean in early spring so vegetation damaged during cleaning has time to re-establish.	Every 10-25 years

## Additional Information

In most cases, surface sediment removed from an extended detention basin during periodic maintenance to restore capacity does not contain toxic materials (e/g metals, oil and grease, or organics) at levels posing a hazardous concern. Studies to date indicate that pond sediments are generally below toxicity limits and can be safely landfilled or disposed onsite. Onsite sediment disposal is always preferable (if local authorities permit) as long as the sediments are deposited away from the perimeter to prevent their reentry into the basin. Sediments should be tested for toxic materials in compliance with current landfill requirements and disposed of properly.

Special considerations are required for extended detention basins to be effective in cold climates. Refer to the Stormwater Managers Resource Center for more information.

## References

California Department of Transportation. *Treatment BMP Technology Report (CTSW-RT-09-239.06)*, 2010. Available online at:  
<http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-09-239-06.pdf>.

California Stormwater Quality Association. *Stormwater Best Management Practice Handbook, New Development and Redevelopment*, 2003. Available online at:  
<https://www.casqa.org/resources/bmp-handbooks/new-development-redevelopment-bmp-handbook>.

Riverside County Flood Control and Water Conservation District. *Riverside County Design Handbook for Low Impact Development Best Management Practices*, 2011. Available online at:  
[http://rcflood.org/downloads/NPDES/Documents/LIDManual/LID\\_BMP\\_Design\\_Handbook.pdf](http://rcflood.org/downloads/NPDES/Documents/LIDManual/LID_BMP_Design_Handbook.pdf).

San Francisco Public Utilities Commission, et al. San Francisco Stormwater Design Guidelines. Appendix A, Stormwater BMP Fact Sheets, 2010. Available online at:  
<http://www.sfwater.org/modules/showdocument.aspx?documentid=2778>.

Stormwater Managers Resource Center. <http://www.stormwatercenter.net>.

Stormwater Mangers Resource Center, Stormwater Practices for Cold Climates.  
<http://www.stormwatercenter.net/Cold%20Climates/cold-climates.htm>.

Tahoe Regional Planning Agency. Best Management Practices Handbook, 2012.

Available online at:

<http://www.tahoebmp.org/Documents/2012%20BMP%20Handbook.pdf>.

U.S. Environmental Protection Agency, Post-Construction Stormwater Management in New Development and Redevelopment. BMP Fact Sheets. Available online at:

[http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min\\_measure&min\\_measure\\_id=5](http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=5).

Ventura Countywide Stormwater Quality Management Program. *Technical Guidance Manual for Stormwater Quality Control Measures*, 2010. Available online at:

[http://www.vcstormwater.org/documents/workproducts/technicalguidancemanual/2010revisions/Ventura%20Technical%20Guidance%20Document\\_5-6-10.pdf](http://www.vcstormwater.org/documents/workproducts/technicalguidancemanual/2010revisions/Ventura%20Technical%20Guidance%20Document_5-6-10.pdf).

Watershed Management Institute, Inc. *Operation, Maintenance, and Management of Stormwater Management Systems*, 1997. Available online at:

<http://www.stormwater.ucf.edu/research/stormwaterOMM/stormwateromm.pdf>.