Diablo Canyon Power Plant Decommissioning Project

Draft Environmental Impact Report

State Clearinghouse # 2021100559
Development Plan/
Coastal Development Permit/
Conditional Use Permit
DRC2021-00092 (ED21-174)

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List of Acronyms and Abbreviations

	°C	degrees Celsius
	°F	degrees Fahrenheit
	µg/m^3	micrograms per cubic meter
	µm	micrometer
A	AAQS	Ambient Air Quality Standards
	AB	Assembly Bill
	AC	Applicant Commitment
	ACM	asbestos containing materials
	ACR	American Carbon Registry
	ACS	American Community Survey
	ADA	Americans with Disabilities Act
	ADT	average daily trips
	AE	Applied Earthworks
	AEC	Alamitos Energy Center
	AEC	Atomic Energy Commission
	AF	acre-feet
	AFLCIO	American Federation of Labor and Congress of Industrial Organizations
	AFY	acre-feet per year
	ALARA	as low as is reasonably achievable
	AOCs	areas of concern
	AP-42	USEPA Compilation of Air Emissions Factors
	APCD	Air Pollution Control District
	Applicant	Pacific Gas & Electric Company
	APN	Assessor's parcel number
	AR5	Fifth Assessment Report
	AREOR	Annual Radiological Environmental Operating Report
	ASWS	Auxiliary Salt Water System
	ATC	Authority to Construct
	AVE	Areas of Visual Effect
B	BACT	Best Available Control Technology
	BCC	USFWS Bird of Conservation Concern
	BERD	Built Environment Resource Directory
	BLM	Bureau of Land Management
	BMP	Best Management Practices
	BOEM	Bureau of Ocean Energy Management
C	CAAQS	California Ambient Air Quality Standards
	CAL FIRE	California Department of Forestry and Fire Protection
	CAL IPC	California Invasive Plant Council
	CAMP	Construction Activity Management Plan
	CAR	Climate Action Reserve
	CARB	California Air Resources Board
	CBCN	Coastal Band of the Chumash Nation
	CCA	California Coastal Act
	CCC	California Coastal Commission

CCH	Consortium of California Hebaria
CCIC	Central Coastal Information Center
CCR	California Code of Regulations
CCRWQCB	Central Coast Regional Water Quality Control Board
CCSMW	California Sediment Management Workgroup
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CDOC	California Department of Conservation
CDP	Coastal Development Permit
CDPH	California Department of Public Health
CDWR	California Department of Water Resources
CEC	California Energy Commission
CEMP	California Eelgrass Mitigation Policy
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CFR	Code of Federal Regulations
CGP	Construction General Permit
CGS	California Geological Survey
CH_4	methane
CHP	California Highway Patrol
CI	*Coccidioides immitis*
CIKR	critical infrastructure and key resources
CISF	consolidated interim storage facilities
CLSM	controlled low strength material
CLUP	Coastal Land Use Plan
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	Carbon dioxide equivalent
COSE	Conservation and Open Space Element
CPS	coastal pelagic species
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRMDP	Cultural Resources Monitoring and Discovery Plan
CRPR	California Rare Plant Rank
CRPR 1A	California Rare Plant Rank, presumed extinct in California
CRPR 1B	California Rare Plant Rank, Rare or endangered in California and elsewhere
CRPR 2	California Rare Plant Rank, Rare or endangered in California, more common elsewhere
CRPR 3	California Rare Plant Rank, More Information Needed
CRPR 4	California Rare Plant Rank, Limited Distribution (Watch List)
CRS	Cultural Resources Specialist

	CS	Service Commercial
	CSLC	California State Lands Commission
	CUP	Conditional Use Permit
	CWA	Clean Water Act
	CWS	cooling water system
	CY	cubic yards
	CZLUO	Coastal Zone Land Use Ordinance
	CZMA	Coastal Zone Management Act
D	D&D	Decontamination and dismantlement
	DAMP	Decommissioning Activity Management Plan
	dB	Decibel
	dB re 1 µPa	Decibels referenced to 1 micropascal
	dBA	A-weighted decibels
	DBA	Design Basis Accident
	DBH	diameter at breast height
	DCA	Discharge Cove Area
	DCDEP	Diablo Canyon Decommissioning Engagement Panel
	DCFD	Diablo Canyon Fire Department
	DCGL	Derived Concentration Guideline Level
	DCPP	Diablo Canyon Power Plant
	DDD	dichlorodiphenyldichloroethane
	DDE	dichlorodiphenyldichloroethylene
	DDT	dichlorodiphenyltrichloroethane
	DESAL	Desalination Executable Solution and Logistics
	DIR	Department of Industrial Relations
	DOC	California Department of Conservation
	DOD	US Department of Defense
	DOE	US Department of Energy
	DOT	Department of Transportation
	DP	Development Plan
	DPM	Diesel Particulate Matter
	DPS	distinct population segment
	DQO	Data Quality Objective
	DTSC	Department of Toxic Substances Control
E	EAP	Energy Action Plan
	EFH	Essential Fish Habitat
	EIR	Environmental Impact Report
	EIS	Environmental Impact Statement
	ENSO	El Niño-Southern Oscillation
	EO	Executive Order
	EOP	Emergency Operations Plan
	EPA	Environmental Protection Agency
	EPRI	Edison Power Research Institute
	ESA	Endangered Species Act
	ESHA	Environmentally Sensitive Habitat Area
	ESRI	Environmental Systems Research Institute
	ESS	Energy Storage System

	ESU	evolutionarily significant units
F	FC	Federal Candidate
	FE	Federally Endangered
	FEMA	Federal Emergency Management Agency
	FESA	Federal Endangered Species Act
	FGC	California Fish and Game Code
	FHSZ	Fire Hazard Severity Zone
	FHWA	Federal Highway Administration
	FIRM	Flood Insurance Rate Maps
	FLEX	Flexible and Diverse Coping Strategy
	FMC	Fishery Management Councils
	FMP	Fishery Management Plans
	FODCL	Friends of the Diablo Canyon Lands
	FP	State Fully Protected
	FRAs	Federal Responsibility Areas
	FSAR	Final Safety Analysis Report
	FSR	Final Site Restoration
	FSS	Final Status Surveys
	FSSR	Final Status Survey Report
	FT	Federally Threatened
	FTA	Federal Transit Authority
	FY	fiscal year
G	GEIS	Generic Environmental Impact Statement
	GHG	greenhouse gas
	GIS	geographic information system
	GPM	gallons per minute
	GTCC	Greater Than Class C
	GWP	global warming potential
	GWTS	groundwater collection and treatment system
H	H-3	tritium
	H&SC	Health and Safety Code
	HAPC	Habitat of Particular Concern
	HEPA	high-efficiency particulate air
	HFCs	hydrogluorocarbons
	HLW	high-level radioactive waste
	HMS	Highly Migratory Species
	HMR	Hazardous Materials Regulations
	HRA	Health Risk Assessment
	HSA	Historical Site Assessment
	HSMs	horizontal storage modules
	HWTS	hazardous waste tracking system
I	ICCTA	Interstate Commerce Commission Termination Act
	ICRP	International Commission on Radiation Protection
	IFMP	Irradiated Fuel Management Plan
	IGP	Industrial General Permit
	IMO	International Maritime Organization

	IPAC	Information for Planning and Conservation Program
	IPCC	Intergovernmental Panel on Climate Change
	IRP	Integrated Resource Plan
	IRWM	Integrated Regional Water Management
	ISFSI	Independent Spent Fuel Storage Installation
J	JPA	Joint Proposal Agreement
K	KEEP	Kern Environmental Education Program
	kV	kilovolts
L	L_{10}, L_{50}, L_{90}	A-weighted noise levels that are exceeded 10, 50, and 90 percent of the time, respectively, during the measurement period
	LAES	liquid air energy storage
	LAMP	Local Agency Management Program
	LARW	Low Activity Radioactive Waste
	LCP	Local Coastal Program
	L_{dn}	day/night noise level
	Leq	Equivalent noise level
	LI	Light Industrial
	LID	Low Impact Development
	LLD	lower limit of detection
	LLRW	low-level radioactive waste
	L_n	noise level exceeded during “n” percent of the measurement period
	LOS	level of service
	LRA	License Renewal Application
	LRAs	Local Responsibility Areas
	LRW	liquid radioactive waste
	LTP	License Termination Plan
	LTR	License Termination Rule
	LUE	Land Use Element
	LUO	Land Use Ordinance
	LUST	leaking underground storage tank
M	M	moment magnitude scale
	MARSAME	Multi-Agency Radiation Survey and Assessment of Materials and Equipment
	MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
	MBTA	Migratory Bird Treaty Act
	MCL	maximum contaminant levels
	MCV	Manual of California Vegetation
	MDA	minimum detectable activity
	MDAQMD	Mojave Desert Air Quality Management District
	MEIR	Maximum Exposed Individual – Residential
	MEIW	Maximum Exposed Individual – Worker
	MGD	Million gallons per day
	mg/L	Milligrams per liter
	MHHW	mean higher high water
	MLD	most likely descendent
	MLLW	mean lower low water
	MM	mitigation measure

	MMPA	Marine Mammal Protection Act of 1972
	MMRP	Mitigation Monitoring and Reporting
	MMT	million metric tons
	MOU	Memorandum of Understanding
	MPA	Marine Protected Area
	MPC-32	multi-purpose canister capable of holding 32 fuel assemblies
	MPO	Metropolitan Planning Organization
	MRR	Mandatory Reporting Rule
	MSA	Management Act of 1976
	MSL	mean sea level
	MW	megawatts
	MWO	marine wildlife observers
N	N/A	not applicable
	NAAQS	National Ambient Air Quality Standards
	NAHC	Native American Heritage Commission
	NAS	native aquatic species
	NAVD88	North American Vertical Datum of 1988
	NBMP	Nesting Bird Management Plan
	NCRP	National Council on Radiation Protection and Measurements
	NCTC	Northern Chumash Tribal Council
	NDCTP	Nuclear Decommissioning Cost Triennial Proceeding
	NEBA	Net Environmental Benefit Analysis
	NEI	Nuclear Energy Institute
	NEPA	National Environmental Policy Act
	NESHAP	National Emission Standards for Hazardous Air Pollution
	NF3	nitrogen trifluoride
	NFPA	National Fire Protection Agency
	NHMLA	History Museum of Los Angeles County
	NIPP	National Infrastructure Protection Plan
	NMFS	National Marine Fisheries Service
	NO_2	nitrogen dioxide
	NOA	naturally occurring asbestos
	NOAA	National Oceanic and Atmospheric Administration
	NOCA	North Owner Controlled Area
	NOI	Notice of Intent
	NOP	Notice of Preparation
	NOT	Notice of Termination
	NOx	oxides of nitrogen
	NPA	North Protected Area
	NPDES	National Pollutant Discharge Elimination System
	NRC	US Nuclear Regulatory Commission
	NRCS	National Resource Conservation Service
	NREL	National Renewable Energy Laboratory
	NRHP	National Register of Historic Places
	NSA	North Site Area
	NUREG	US Nuclear Regulatory Commission Regulation
	NWPA	Nuclear Waste Policy Act

O	OCA	Owner-Controlled Area
	OEHHA	Office of Environmental Health Hazard Assessment
	OES	Office of Emergency Services
	OHWM	ordinary high-water mark
	OPC	Ocean Protection Council
	OPR	Office of Planning and Research
	OSGSF	Old Steam Generator Storage Facility
	OSHA	Occupational Safety and Health Administration
	OSPR	Office of Spill Prevention and Response
	OSRP	Oil Spill Response Plan
	OTC	once-through cooling
	OWTS	Onsite Wastewater Treatment Systems
P	PA	protected area
	PB	lead (element)
	PBA	Power Block Area
	PBR	Pismo Beach Railyard
	PCBs	Polychlorinated biphenyls
	PCG	Pacific Coast Groundfish
	pCi/liter	picocuries per liter
	PCS	Pacific Coast Salmon
	PDO	Pacific Decadal Oscillation
	PERP	Portable Equipment Registration Program
	PFCs	perfluorocarbons
	PFMC	Pacific Fishery Management Council
	PG&E	Pacific Gas & Electric Company
	PGAs	peak ground accelerations
	PIER	Paleontological Inventory and Evaluation Report
	PM	particulate matter
	PM10	course particulate matter that is 10 microns (µm) in diameter or smaller
	PM2.5	fine particulate matter that is less than 2.5 microns (µm)in diameter
	PP	pipe pile
	PPV	peak particle velocity
	PRC	Public Resources Code
	PRDs	Permit Registration Documents
	Proposed Project	Applicant's proposed scope of work evaluated in the EIR
	PSDAR	Post Shutdown Decommissioning Activities Report
	PSHA	Probabilistic Seismic Hazard Assessment
	PTO	Permit to Operate
	PTS	permanent threshold shift
Q	QA	quality assurance
R	RCA	Radiological Control Area
	RCNM	Roadway Construction Noise Model
	RCPs	Reactor Coolant Pumps
	RCRA	Resource Conservation and Recovery Act
	REACH	Regional Economic Action Coalition

	REMP	Radiological Environmental Monitoring Program
	RHA	Rivers and Harbors Act
	RMS	root-mean-square
	ROC	reactive organic compounds
	ROG	reactive organic gasses
	RPS	Renewables Portfolio Standard
	RPV	reactor pressure vessel
	RTA	Regional Transit Authority
	RTK	real-time accuracy
	RTP	Regional Transportation Plan
	RV	recreational vehicle
	RVI	reactor vessel internals
	RWQCB	Regional Water Quality Control Board
S	SAFSTOR	safe, stable storage condition delaying decommissioning up to 60 years
	SB	Senate Bill
	SBC	Santa Barbara County Conservation
	SBCAG	Santa Barbara County Association of Government
	SBCAPCD	Santa Barbara County Air Pollution Control District
	SBCFD	Santa Barbara County Fire Department
	SC	state candidate
	SCAQMD	South Coast Air Quality Management District
	SCCAT	Southern California Caulerpa Action Team
	SCCC DPS	South-Central California Coast Distinct Population
	SCEDC	Southern California Earthquake Data Center
	SCS	Site Characterization Study
	SEAD	Security Executive Agent Directive
	SF_6	sulfur hexafluoride
	SFP	spent fuel pool
	SGMA	Sustainable Groundwater Management Act
	SGRP	Steam Generator Replacement Project
	SJVAPCD	San Joaquin Valley Air Pollution Control District
	SLOAPCD	San Luis Obispo Air Pollution Control District
	SLOCAPCD	San Luis Obispo County Air Pollution Control District
	SLOCOG	San Luis Obispo Council of Governments
	SLR	sea-level rise
	SMAT	Santa Maria Area Transit
	SMCA	State Marine Conservation Area
	SMR	State Marine Reserve
	SMRMA	State Marine Recreational Management Area
	SMVR	Santa Maria Valley Railyard Facility
	SMVR-SB	Santa Maria Valley Railyard Facility – Santa Barbara (Betteravia Industrial Park)
	SMVR-SM	Santa Maria Valley Railyard Facility – Santa Maria (Osburn Yard)
	SNF	spent nuclear fuel
	SO_2	sulfur dioxide
	SO_x	sulfur oxides
	SOCA	South Owner Controlled Area

	SONGS	San Onofre Nuclear Generating Station
	SP	sheet pile
	SPA	South Protected Area
	SPCC	Spill, Prevention, Control, and Countermeasure
	SPL	Sound Pressure Level
	SRA	Sensitive Resource Area
	SRA	State Responsibility Area
	SSA	South Site Area
	SSC	species of special concern
	SSCs	structures, systems, and components
	SSDCE	Site-Specific Decommissioning Cost Estimate
	SSLOCSD	South San Luis Obispo Community Services District
	ST	state threatened
	SUV	sport utility vehicle
	SVP	Society of Vertebrate Paleontology
	SWMP	Stormwater Management Plan
	SWPPP	Stormwater Pollution Prevention Plan
	SWRCB	State Water Resources Control Board
	SWRO	Seawater Reverse Osmosis
	SYBCI	Santa Ynez Band of Chumash Indians
T	TACs	toxic air contaminants
	TCRs	Tribal Cultural Resources
	TEDE	total effective dose equivalent
	TMP	Traffic Management Plan
	TMP	Transportation Management Plan
	TSDF	treatment storage & disposal
	TSP	tubular steel pole
	TSSs	Traffic Separation Schemes
	TTS	temporary threshold shift
U	UCLA	University of California Los Angeles
	UCMP	University of California Museum of Paleontology
	UPRR	Union Pacific Railroad
	URL	Urban Reserve Line
	US	United States
	US-101	United States Highway 101
	USACE	United States Army Corps of Engineers
	USC	United States Code
	USDA	United States Department of Agriculture
	USEPA	United States Environmental Protection Agency
	USFWS	United States Fish and Wildlife Service
	USGCRP	United States Global Change Research Program
	USGS	United States Geological Survey
	UST	underground storage tank
	UTM	Universal Transverse Mercator
V	VCAPCD	Ventura County Air Pollution Control District
	VCT	Vertical Cask Transporter

	VMT	Vehicle Miles Traveled
	VOC	volatile organic compound
W	WD	wheel drive
	WDID	Waste Discharge Identification Number
	WDL	Water Data Library
	WEA	Wind Energy Area
	WEAP	Worker Environmental Awareness Program
	WHAT	Waste Holding and Treatment
	WNSRT	White-Nose Syndrome Response Team
	WOCA	West Owner Controlled Area
Y	YTT	yak tityu tityu yak tilhini
Z	ZOI	Zone of Influence

Executive Summary

ES.1 Background, Project Location, and Project Scope

The County of San Luis Obispo (County) is the Lead Agency for preparation of this Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA). As the CEQA Lead Agency, the County must evaluate the potential impacts associated with Pacific Gas and Electric Company's (PG&E) application to decommission the Diablo Canyon Power Plant (DCPP). This EIR provides agencies and the public with detailed information about the effects associated with the DCPP Decommissioning Project (Proposed Project or Project). PG&E (or Applicant) proposes to decommission the DCPP, which involves the decommissioning (withdraw from service and make inoperative) and dismantlement (break apart, decontaminate, and remove) of much of the existing Diablo Canyon Power Plant. This decision was confirmed by the California Public Utilities Commission (CPUC) in 2018 (see Section 1.2.1, *DCPP License Expiration and Retirement*). Upon final shutdown of the two reactor units and assuming all permit conditions are acceptable, PG&E intends to transition DCPP immediately from an operating status into a decommissioning status, meaning the facility would be shut down and the process of dismantling, decontaminating, and removing it would begin.

The DCPP is a nuclear-powered electrical generating station that began commercial operation in 1985 for Reactor Unit 1 and 1986 for Reactor Unit 2 and is the last nuclear power plant operating in California. The two reactor units are licensed by the Nuclear Regulatory Commission (NRC) to operate until November 2, 2024 (Unit 1) and August 26, 2025 (Unit 2). In 2016, PG&E decided to forego license renewal efforts and announced plans to close DCPP at the expiration of its current 10 Code of Federal Regulations (CFR) Part 50 facility operating licenses (referred to herein as NRC Part 50 facility operating licenses).

Senate Bill (SB) 846 was adopted in September 2022, providing PG&E a path to continue operations at the DCPP for up to five additional years (no later than 2029 for Unit 1 and 2030 for Unit 2), provided the site and the Applicant qualify for specific amounts of federal and State funding (Dodd, 2022). The law requires PG&E to seek external funding sources (including but not limited to the Federal Department of Energy's Civil Nuclear Credit Program and legislatively approved funding from the California Department of Water Resources); conduct updated seismic studies; obtain state permits in a timely manner; and request NRC approval of continued operations. SB 846 also requires multiple state agencies to act swiftly to accommodate the potential path for DCPP's continued operations. For example, the CPUC has already adopted Decision 22-12-005 (CPUC, 2022), implementing SB 846 and authorizing PG&E to track costs related to continued operations in specific balancing accounts to be reviewed by the CPUC prior to any cost recovery from ratepayers, and launched a new Rulemaking (R.)23-01-007 to evaluate ratepayer costs associated with continued operations (CPUC, 2023). In June 2023, PG&E received from the California State Lands Commission (CLSC), a five-year lease extension to October 2030, for continued use of the DCPP structures located within the CSLC's jurisdiction. Future state actions include the California Coastal Commission's (CCC) review of PG&E's license renewal application to the NRC for consistency with California's Coastal Management Program (CCMP) under the federal Coastal Zone Management Act (CZMA) of 1972. Coastal Development Permits from the County, or the CCC within its retained jurisdiction, would only be required if extended operations

of the DCPP involves new development. At this time, PG&E has not proposed any development associated with extending operations that would require permitting by the County or the CCC. Separately, Assembly Bill (AB) 205 (Chapter 61, 2022), later modified by AB 209 (Chapter 251, 2022) set aside funding to support PG&E's acquisition of additional nuclear fuel should DCPP's continued operations be deemed necessary. In August 2022, PG&E received a grant of $75 million from California's Reliability Reserve Funding established by AB 205/AB 209 (Diablo Canyon Decommissioning Engagement Panel, 2022). Further, PG&E and the California Department of Water Resources signed a loan agreement in October 2022 that would provide up to $350 million in initial funding to support PG&E's efforts to continue DCPP operations. In November 2022, PG&E received conditional funding from the Federal Civil Nuclear Credit Program for up to $1.1 billion. While these legislative and fiscal obligations could impact the timing of DCPP's decommissioning as proposed and evaluated in this EIR, the Applicant's regulatory and financial requirements for, and any environmental impacts associated with, continued operations are outside the scope of the Applicant's Proposed Project and therefore not evaluated in this EIR.

The Proposed Project considered in this EIR includes three sites: (1) the DCPP site; (2) the Pismo Beach Railyard (PBR); and (3) the Santa Maria Valley Railyard Facility at Betteravia Industrial Park (SMVR-SB) (see Figure ES-1).

The DCPP site is on the Pacific Coast of San Luis Obispo County, California, approximately 7 miles northwest of the unincorporated community of Avila Beach. The DCPP facility site comprises a 750-acre high-security zone, which contains the developed 585-acre Parcel P and a nearby dry spent-fuel storage facility, surrounded by approximately 12,000 acres of land owned by either PG&E or Eureka Energy Company (Eureka), a wholly owned subsidiary of PG&E, which extends from the southern border of Montaña de Oro State Park in the north to the northern edge of Port San Luis in the south.

The PBR site is located off Price Canyon Road in the City of Pismo Beach in San Luis Obispo County, approximately 13 miles southeast of the DCPP site. The SMVR-SB site is located within the County of Santa Barbara at Betteravia Industrial Park, approximately 30 miles southeast of the DCPP site. These railyard sites would be utilized for the transfer of non-hazardous, non-radiological, and radiological (SMVR-SB only) waste materials.

Figure ES-1. Project Location Map

DCPP decommissioning would occur in two phases:

- Phase 1 (2024 through 2031): Pre-planning and Decommissioning Project Activities, and
- Phase 2 (2032 through 2039): Completion of Soil Remediation, Final Status Surveys, and Final Site Restoration.

Activities in each phase are discussed in more detail in Section 2.3, *Proposed Project Activities Phase 1 – Pre-Planning and Decommissioning Project Activities (2024-2031)* for Phase 1 and Section 2.4, *Proposed Project Activities Phase 2 – Completion of Soil Remediation, Final Status Surveys, and Final Site Restoration (2032-2039)* for Phase 2. See Figure ES-2 for the proposed activities for Phase 1 and Phase 2.

Figure ES-2. Phase 1 and Phase 2 Activities

The geographic scope of this EIR covers both onshore and offshore activities that would occur during the Proposed Project. The Proposed Project would occur within the California coastal zone (the jurisdiction of the California Coastal Commission), California State Lands Commission (specifically DCPP features in tidelands and submerged lands), and the jurisdiction of the NRC (related to radiological cleanup, operating license termination, and radiological waste transportation requirements).

The scope of this EIR also discloses for information purposes, but does not analyze, the following separate project, which is related to the overall plan to decommission the DCPP. The Independent Spent Fuel Storage Installation (ISFSI) is an approved, separate project, required for the storage of spent nuclear fuel (SNF) whether or not the DCPP Decommissioning Project were to occur. Components of the Proposed Project, such as the spent fuel pools, cannot be decommissioned until all the SNF has been transferred to the ISFSI.

Independent Spent Fuel Storage Installation

In December 2001, PG&E applied to the NRC requesting a site-specific license to build and operate an ISFSI on the DCPP site. On March 22, 2004, the NRC issued Materials License No. SNM-2511, pursuant to Part 72, authorizing PG&E to receive, possess, store, and transfer SNF and associated radioactive materials resulting from the operation of DCPP to an ISFSI at the site for a term of 20 years. PG&E also applied for a Development Plan/Coastal Development Permit (DP/CDP) and Conditional Use Permit (CUP) application package for construction and operation of the ISFSI in perpetuity with the County in 2001, which was approved by the County in 2004. The permit was then appealed by several parties to the CCC; the appeals raised substantial issue with respect to the grounds on which they were filed. The substantial issue determination transferred jurisdiction of the ISFSI project and any future permitting of the ISFSI project to the CCC. The CCC approved the ISFSI project in December 2004 and construction of the ISFSI began shortly thereafter.

The ISFSI consists of seven storage pads containing space for 20 fuel storage casks each. PG&E began transferring spent fuel to the ISFSI in 2009. The ISFSI contains its own separate PA (i.e., security zone) from the plant. Transfer of SNF from the spent fuel pool to the ISFSI is scheduled to be completed by 2029. Because the construction and operation of the ISFSI was approved as part of a separate process, this EIR does not include an evaluation of the operation of the ISFSI or any modifications to the NRC license or CCC permitting requirements that may be required for its continued operations.

ES.2 Proposed Project Description

The Proposed Project involves the decommissioning and dismantlement of much of the existing DCPP. As illustrated above, the Proposed Project would occur in two phases: (1) Phase 1: Pre-planning and Decommissioning Project Activities (2024 through 2031), and (2) Phase 2: Completion of Soil Remediation, Final Status Surveys (FSS), and Final Site Restoration (2032 through 2039).

Phase 1 of the decommissioning activities would commence after DCPP Unit 1 shuts down in November 2024. Decommissioning would occur within the “Owner Controlled Area,” or OCA. The OCA is defined as the land area owned and controlled by PG&E or its Eureka subsidiary where access can be limited the owner or its subsidiary for any reason. Currently, the site boundary, protected area, and radiologically controlled area are all contained within the existing OCA. PG&E intends to reduce the size of the existing OCA to encompass the remaining facilities once decommissioning of the DCPP has been completed.

During Phase 1, the original power supplies would be disconnected, and an alternate external power supply, known as Cold and Dark power, would be installed to support Project activities. The Cold and Dark power system would be in place prior to de-energizing and would remain in service until all SNF and GTCC waste has been moved from the spent fuel pool to the ISFSI and new GTCC Waste Storage Facility, respectively. Site infrastructure modifications as part of the Proposed Project include the construction of an approximately 12,000 square-foot building to serve as the new Security Building for the ISFSI and the GTCC Waste Storage Facility and a new indoor Firing Range adjacent to this new building. A separate, approximately 15,000 square-foot

building would provide storage for larger materials, equipment, vehicles, and trailers. An approximately 4,800 square-foot Security Warehouse is proposed as a permanent structure intended to support security-related long-term operations of the ISFSI. Additionally, an approximately 5,400 square-foot Vertical Cask Transporter Warehouse would be constructed north of the ISFS pad to support SNF transport. These new buildings would be located in the East Canyon Area and would be supported by an existing septic and dispersal system, which would be upgraded, or a new septic system established, to ensure consistency with County ordinances related to sewage disposal systems and wastewater management and Regional Water Quality Control Board requirements, as appropriate. Additionally, an approximately 2.880 square-foot temporary decommissioning office building would be constructed off Decom Avenue. Details on Phase 1 site infrastructure modifications are included in Section 2.3.3, *Site Infrastructure Modifications*.

A "blended" approach using primarily ocean barging, as well as trucking and rail transport would be utilized to transport waste material from the DCPP site to the appropriate facilities during decommissioning. Class A, B, and C radioactive waste from decommissioning activities would be shipped by barge to either Portland or Boardman, Oregon for transfer to landfills in the Columbia Gorge area, or may be hauled by heavy truck or specialty heavy-haul transport vehicle (oversized truck/trailer) directly out of state for disposal or to the SMVR facility for transport out of state via rail to permitted disposal facilities in Clive, Utah and/or Andrews, Texas. Non-radiological and non-hazardous waste may be trucked to the PBR as a backup or contingency site for transport out of state via rail for disposal. Infrastructure modifications would be required at these rail facilities to accommodate Project activities. Proposed railyard infrastructure modifications are discussed in detail in Section 2.3.4, *Modifications and Operations at Rail Facilities*.

Demolition of DCPP buildings would consist of demolition and removal of above-grade structures and removal of all or some foundations to a depth of at least 3 feet below local grade or entirely removed to a depth of greater than 3 feet with the remainder to be backfilled, as specified by NRC regulation. See Table 2-3, *Zone Listing and Major Structures*, for an inventory of site buildings in the 12 zones within the DCPP site. Building demolition would require System and Area Closure, or the removal of selected structures, systems, and components. The Proposed Project would require decontamination of known hazardous or regulated materials prior to removal or demolition of structures. Stormwater management activities during Phase 1 would include temporary erosion and sediment controls. Radioactive and hazardous materials would be safely removed by following industry standard control methods. The spent fuel pool would continue to use the existing once-through-cooling auxiliary saltwater system until all SNF is transferred to the ISFSI.

In addition to the buildings that would be demolished, various utilities, structures, roads, and parking areas not required for long-term operation of the ISFSI or the 230 kV/500 kV switchyards or towers would be demolished. Several internal transmission lines and poles would also be removed.

After all SNF is transferred to the ISFSI and prior to the removal of the Discharge Structure, the Salt-Water Reverse Osmosis (SWRO) Desalination Plant would cease operations and water for other activities would be sourced from on-site wells. The existing sanitary wastewater treatment plant would remain operational through the end of Phase 1 (2031). The Discharge Structure, which discharges water from the DCPP's operations into the Pacific Ocean, would begin to be

removed near the end of Phase 1, but its full removal would continue into Phase 2. Its removal would require a cofferdam and dewatering system. Barges would be used to transport waste from the Discharge Structure to either Portland or Boardman, Oregon for offloading. Any clean concrete excavated during the removal of the Discharge Structure may be reused as an engineered fill material for site restoration either directly or through blending with soil.

The Firing Range would also be removed toward the end of Phase 1 and would undergo soil remediation, backfill, and restoration. In addition, grading and fill would be required to fill the voids left from the demolition and removal of man-made elements. Grading and fill activities would take place primarily during Phase 2 of decommissioning.

During Phase 2, FSS would be completed at the DCPP site following completion of radiological soil remediation activities, where required. The objective of the FSS are to support the termination of the NRC Part 50 facility operating licenses for Units 1 and 2 by ensuring that the DCPP site meets the required NRC radiological clean-up standards. Phase 2 activities also include contaminant remediation, demolition of remaining utilities and structures, soil grading and landscaping, long-term stormwater management, and closure of the Intake Structure. A blufftop road segment would also be established to connect Shore Cliff Road with North Ranch Road/Pecho Valley Road to facilitate improved emergency access for the County Fire Department from Avila Beach Drive and from Montaña de Oro State Park. Phase 2 also includes transitioning to ISFSI/GTCC waste storage-only operations. Retained facilities, including the Marina, would be released from the 10 CFR Part 50 facility operating licenses for Units 1 and 2.

As a potential future action, PG&E would apply for a new or amended CSLC lease and sublet or identify another arrangement that could allow a third party to seek a permit to reuse and operate the Marina for recreational, education, and/or commercial purposes (see Section 2.7, *Future Actions – Retain Marina for Permitting and Reuse by Third Party* for more information on potential future Marina uses). Marina improvements are being addressed in this EIR at a project-level consistent with the description of improvements assumed by PG&E. Additional CEQA analysis may be needed once a third party is actively seeking permits and a lease, and more is known about the specific modifications and Marina reuse activities. Any application for reuse would be evaluated for consistency with these assumptions as part of the land use permit CEQA determination.

ES.3 Project Objectives

PG&E identified the following objectives to ensure the Project is implemented in a safe, timely, and cost-efficient manner:

- Retain existing energy-infrastructure (e.g., switchyards, transmission lines, etc.) to meet customer needs
- Reduce radioactivity on the DCPP site in accordance with NRC regulations for unrestricted use
- Commence the Project to promptly complete radiological decontamination of the DCPP site
- Dismantle and remove facility infrastructure that is not to be repurposed in a manner that is least impactful to the environment

- Implement the Project in a manner that maximizes efficiencies (including weekend and nighttime work) and retains flexibility to respond to future conditions, including repurposing of existing infrastructure and/or new development at the DCPP site
- Create marine/harbor opportunities while protecting ecological resources through repurposing of the breakwater, Intake Structure, and associated harbor area
- Terminate the Part 50 NRC licenses for Unit 1 and Unit 2
- Complete the Project in a manner that ensures prudent use of customer funds set aside for the DCPP Decommissioning Plan

ES.4 Purpose and Scope of the EIR

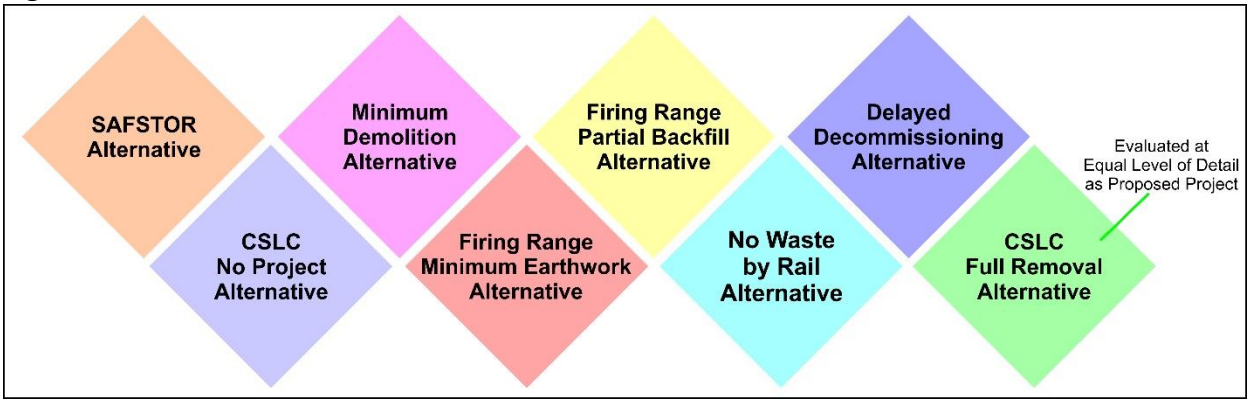
The purpose of this EIR is to identify the significant effects on the environment of the Proposed Project, to identify feasible mitigation measures or alternatives to the Proposed Project, and to indicate the manner in which those significant effects that can be mitigated significantly lessen or avoid such impacts (Pub. Resources Code, § 21002.1, subd. (a)). This EIR is intended to provide the County, as the lead agency, with information required to exercise its jurisdictional responsibilities with respect to the application submitted by PG&E for a DP/CDP and CUP for decommissioning of the DCPP (Proposed Project). Responsible agencies may use the information in the certified EIR to exercise their jurisdictional or regulatory responsibilities related to the Proposed Project.

An EIR is required to describe physical environmental conditions in the vicinity of a project to provide a baseline for comparison to determine potential project impacts and gauge their significance (State CEQA Guidelines, § 15125). Using an appropriate baseline is also important for establishing alternatives to the proposed activities that can be analyzed in an EIR. The alternatives must be capable of reducing or avoiding one or more significant impacts of a project, but do not need to address impacts associated with existing conditions. The County must identify which parts of the Proposed Project are known or reasonably foreseeable; if it finds that a particular impact is too speculative for evaluation, the County should note its conclusion and terminate discussion of the impact (State CEQA Guidelines, § 15145).

ES.5 Alternatives to the Proposed Project

Section 15126.6 of the State CEQA Guidelines states that an EIR must address "a range of reasonable alternatives to the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives." The alternatives screening process considered 15 alternatives and found that eight alternatives met or partially met the project objectives. A summary of the eight alternatives evaluated in detail in the EIR is provided in Figure ES-3.

Figure ES-3. Alternatives Evaluated in Detail in the EIR



Alternative 1: SAFSTOR Alternative. This "no project" alternative is required by CEQA and considers existing environmental conditions as well as what would reasonably be expected to occur in the foreseeable future if the permits and leases associated with the Proposed Project are not approved. DCPP would be placed in a safe, stable storage condition (SAFSTOR), and decommissioning of the DCPP would be completed within 60 years as required under NRC regulations and associated guidance.

Alternative 2: CSLC No Project Alternative. The new CSLC lease or lease amendment requested by PG&E for the Proposed Project (removal of the structures within the CSLC jurisdiction with the exception of the Breakwaters and Intake Structure) would not be approved, and the existing lease would expire on August 26, 2025. All facilities and structures within the CSLC jurisdiction would not be removed and would remain in their current position and configuration. Other onshore decommissioning activities outside of the CSLC jurisdiction would continue as described for the Proposed Project.

Alternative 3: Minimum Demolition Alternative. This alternative minimizes demolition activities and substantially reduces the environmental impacts associated with dismantling and off-site transport. Demolition and removal of structures would be kept to a minimum, leaving structures in place for potential third-party reuse or future dismantlement so long as the remaining soil and structures meet the NRC's remediation requirements.

Alternative 4: Firing Range Minimum Earthwork Alternative. Excess soil generated from site grading would be utilized in the area of the Firing Range (to be removed during Phase 1). This alternative would result in approximately 1.6 acres of disturbance and require approximately 21,800 cubic yards (CY) of earthwork in the area of the existing Firing Range.

Alternative 5: Firing Range Partial Backfill Alternative. This alternative would mimic natural conditions to promote positive drainage and backfill voids created by demolition of DCPP structures. Additional soil would be generated near the existing Firing Range, which when combined with excess soil generated from site grading, would provide additional fill material for partial backfill of the existing Firing Range area. This alternative would result in approximately 3.0 acres of disturbance and approximately 38,200 CY of earthwork.

Alternative 6: No Waste by Rail Alternative. All decommissioning waste would be transported by truck or barge; no waste would be transported by rail. The 99 truck trips to be sent to the

SMVR-SB site, totaling approximately 8,300 tons, would instead be shipped by truck to Energy Solutions in Clive, Utah or Waste Control Specialists in Andrews, Texas.

Alternative 7: Delayed Decommissioning Alternative. Under this alternative it is assumed DCPP operations would continue if PG&E were to be approved for extended operations per Senate Bill (SB) 846 (see Section ES.1, *Background, Project Location, and Project Scope*). As such, some decommissioning activities may occur simultaneously with continued operations of the plant. Specifically, this alternative considers the construction of three proposed buildings, the Vertical Cask Transporter (VCT) Warehouse, Security Warehouse, and a temporary decommissioning office building during extended operations, prior to plant shutdown and the onset of full decommissioning of the DCPP.

Alternative 8: CSLC Full Removal Alternative. All facilities within the CSLC jurisdiction (Discharge Structure, Intake Structure, Breakwaters, Marina, storage facility, office facilities, intake electrical room, intake maintenance shop, equipment storage pad, and spare tri-bar storage) would be removed. Repurposing of these structures would not occur. Decontamination and radiological and chemical remediation would continue to take place to achieve NRC license termination. This alternative was evaluated at an equal level of detail as the Proposed Project, as requested by CSLC.

ES.6 Alternatives Not Considered for Full Evaluation

The following list outlines the seven alternatives that were not carried forward for further review in the EIR. Although these options are feasible, they do not meet Project objectives or reduce the Project's significant impacts. These alternatives were eliminated from further evaluation in the EIR.

*Alternatives not considered for full evaluation would have greater impacts to **air quality**, **biological resources**, **water turbidity**, **water quality**, **cultural and tribal cultural resources**, **soil erosion**, **noise**, and **traffic**, and/or may leave **residual radiological contamination**.*

- **Intake Structure Removal.** This alternative would be identical to the Proposed Project with the exception of complete removal of the Intake Structure. This alternative was eliminated because it would result in greater impacts to air quality, biological resources, water turbidity, and water quality.
- **Breakwater Removal.** Under this alternative, the same activities would occur as described for the Proposed Project. However, the Eastern and Western Breakwaters around the Intake Cove would also be removed, and the marine habitat restored. This alternative was eliminated because it would result in greater environmental impacts than the Proposed Project, including impacts related to air quality, biological resources, water turbidity, and water quality, due to the additional disturbance to the marine environment.
- **Full Removal of Onshore Subsurface Structures.** Greater onshore structure removal would occur than under the Proposed Project, which may result in removal of subsurface structures ranging from greater than 3 feet to full removal. This alternative was eliminated because full removal of subsurface structures would result in substantially more impacts related to air

quality and greenhouse gas emissions, biological resources, cultural and tribal cultural resources, soil erosion and water quality, noise, and traffic.

- **Partial Discharge Structure Removal.** All the same decommissioning activities would occur as described for the Proposed Project; however, instead of completely removing the Discharge Structure, the floor and side walls would remain. This alternative was eliminated because leaving elements of the Discharge Structure in place would conflict with CCC and CSLC goals of returning the DCPP site to a more natural condition. Additionally, the potential for residual radiological contamination could exist in the remaining components, which could ultimately result in additional removals as necessary to meet the NRC Part 50 facility operating license termination requirements.
- **Discharge Structure Leave-in-Place/Bulkhead.** All the same decommissioning/removal activities would occur as described for the Proposed Project; however, the entire Discharge Structure would remain, and the main opening would be closed off with a concrete bulkhead and the interior filled with flowable fill. This alternative was eliminated because leaving the Discharge Structure in place would conflict with CCC and CSLC goals of returning the DCPP site to a more natural condition. Additionally, the potential for residual radiological contamination to remain could ultimately result in additional removals as necessary to meet the NRC Part 50 facility operating license termination requirements.
- **Less Than 25 mrem Remediation Threshold.** This alternative considers applying a more stringent, lower radiological threshold than the NRC's 25 millirem per year (mrem/y) threshold. To file for termination of its Part 50 license, PG&E must conduct a full cost-benefit analysis to determine the remediation threshold that is "as low as reasonably achievable" or ALARA based on the activities necessary to decommission the DCPP site. This could include a more stringent remediation threshold (<25 mrem), if such a requirement is adopted by another California state agency during the decommissioning process. This alternative was eliminated as no such requirement has been officially adopted by another agency in California and is therefore considered speculative.
- **Santa Maria Valley Railyard – Santa Maria (SMVR-SM) Site**. Under this alternative PG&E would transport decommissioning waste via truck from DCPP to a railyard within the City of Santa Maria referred to as Osburn Yard, located at 1599 A Street, approximately 29 miles southeast of the DCPP site. Use of the SMVR-SM site, which is in closer proximity to residences and schools, was eliminated as this alternative would result in greater environmental impacts related to air quality/health risk, noise, and light/glare than the Proposed Project and would not reduce any of the significant impacts of the Proposed Project.

ES.7 Comparison of Proposed Project and Alternatives

Environmentally Superior Alternative

Consistent with CEQA Guidelines Section 15126.6 (d) and (e)(2), the EIR identifies an environmentally superior alternative to the Proposed Project. The EIR determined that Alternative 5, Firing Range Partial Backfill Alternative, would be environmentally superior. This alternative would have slightly more earth movement than Alternative 4, Firing Range Minimum Earthwork Alternative, but would result in a long-term, greater beneficial aesthetic impact as the Firing

Range area would be partially backfilled. Additionally, Alternative 5 more closely aligns with the County of San Luis Obispo Local Coastal Program, Coastal Plan polices, including Visual and Scenic Resource Policy 1: Protection of Visual and Scenic Resources and Policy 5: Landform Alterations (see Table 4.1-1). Erosion-related impacts related to hydrology and water quality and geology and soils would all be reduced by not cutting into the hillside at the Southeast (SE) Borrow Site and avoids additional ground disturbance in a hillside that is otherwise pristine. Furthermore, all terrestrial biological resources impacts related to oak tree trimming along the road to the SE Borrow Site and impacts to the vegetation at the SE Borrow Site would be avoided.

ES.8 Known Areas of Controversy or Unresolved Issues

State CEQA Guidelines Section 15123, subdivision (b)(2), requires EIRs to contain a brief summary of areas of known controversy including issues raised by agencies and the public. Agencies, organizations, and members of the public submitted comments during the 40-day scoping period. The following summary represents the areas of controversy or unresolved issues:

- **DCPP Site Closure.** The decision to shut down the DCPP site and the loss of clean energy as a result of closure of the plant is a major area of controversy. There is both strong support as well as dissent for the decision to close the DCPP site due to concerns over radiological hazards, radiological waste management and storage, climate change, and energy production. The approval to close the DCPP was authorized by the CPUC in decision (D.) 18-01-022 in 2018 in response to PG&E's application (A.) 16-08-006 proposing to retire Diablo Canyon upon the expiration of its NRC licenses. However, as discussed in Section ES.1, per SB 846 adopted in September 2022 (more than a year after PG&E submitted the application to decommission DCPP to the County), PG&E is now pursuing, in parallel, a path to continue operations of DCPP for up to five additional years. As such, a delayed decommissioning alternative (Alternative 7) has been included in the EIR (see Section 5.4.7).
- **Radiological and Hazardous Waste Transport and Long-Term Storage.** The public expressed concern about the long-term storage of radiological waste associated with the Proposed Project and how it would be safeguarded from terrorism and natural disasters. There are concerns regarding health risks from transporting hazardous and radiological materials and the need to identify and describe the safest transportation, storage, and monitoring methods of these materials. Refer to Appendix G2 for more information.
- **CSLC Alternatives.** Section ES.5 describes two alternatives evaluated at the request of the CSLC: Alternative 2 (CSLC No Project Alternative) and Alternative 8 (CSLC Full Removal Alternative). Because CSLC has jurisdiction over all structures within offshore portions of State-owned sovereign land adjacent to the DCPP site, there is uncertainty over the future condition of Project components within the CSLC jurisdiction until CSLC has considered an application for a new lease or an amendment to current CSLC lease PRC 9347.1.

ES.9 Potential Site Reuse Concepts

Potential site reuse concepts consist of possible uses of the DCPP site after decommissioned and FSS have been completed (expected by the end of 2034, so within Phase 2 [2032-2039]) and the area released from the NRC's 10 CFR Part 50 facility operating licenses for Units 1 and 2. Potential

site uses are not part of the Proposed Project, and as such, are not analyzed in the EIR. However, brief descriptions of proposed concepts are discussed in Section 8, *Potential Site Reuse Concepts (Phase 3)* for informational purposes. The potential site reuse concepts described in Section 8 include a clean tech innovation park, a desalination plant, recreation opportunities, an energy storage system, energy research facilities, support of identified Central Coast offshore wind areas, institutional uses, and cultural and historical preservation. Each of these reuse concepts would require future environmental review under CEQA and separate land use permitting processes.

ES.10 Environmental Impacts and Mitigation Measures

This EIR includes a full evaluation of impacts related to the Proposed Project and provides mitigation measures that would reduce or eliminate those impacts to the extent feasible. Per State CEQA Guidelines Section 15126.2, an EIR shall identify and focus on the significant effects of the Proposed Project on the environment, and as such, Table ES-1 summarizes those impacts found to be **potentially significant and unavoidable (Class I)** or **less than significant with mitigation (Class II)** associated with the Proposed Project, and the recommended mitigation measures to reduce significant impacts, where applicable. Impacts that were determined to be **less than significant (Class III)** or result in **no impact (NI)** are not summarized.

Table ES-1. Summary of Significant Impacts and Mitigation Measures

		Level of Significance		
Impact	**Summary of Mitigation Measures**	**Phase 1**	**Phase 2**	**Post-Decom**
Aesthetics				
AES-4: Create new sources of light and glare	**AES-1:** SMVR Lighting Guidelines	Less than Significant with Mitigation (Class II)	No Impact (NI)	No Impact (NI)
Air Quality				
AQ-2: Result in a cumulatively considerable net increase of any criteria air pollutant for which the Project region is in nonattainment	**AQ-1:** Implement a Decommissioning Activity Management Plan (DAMP) **AQ-2:** Provide Funding for Off-site Mitigation of Equipment Emissions	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)	Less than Significant (Class III)
AQ-3: Expose sensitive receptors to substantial pollutant concentrations	**AQ-1:** Implement a Decommissioning Activity Management Plan (DAMP) **AQ-2:** Provide Funding for Off-site Mitigation of Equipment Emissions	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)	Less than Significant (Class III)
Biological Resources – Terrestrial				
BIO-1: Result in permanent and temporary loss of native vegetation communities	**AQ-1:** Implement a Decommissioning Activity Management Plan (DAMP) **BIO-1:** Prepare and Implement a Worker Environmental Awareness Program (WEAP) **BIO-2:** Prepare and Implement a Habitat Restoration and Revegetation Plan **BIO-3:** Implement Oak and Native Mature Tree Protection Measures	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)

Table ES-1. Summary of Significant Impacts and Mitigation Measures

Impact	Summary of Mitigation Measures	Level of Significance		
		Phase 1	**Phase 2**	**Post-Decom**
	BIO-4: Prepare and Implement a Weed Management Plan **BIO-5:** Prepare and Implement a Biological Resources Adaptive Management Plan **BIO-6:** Install "No Entry" Signage at DCPP **EM-2:** Project Plan Updating, Tracking, and Reporting **HWQ-1:** Prepare and Implement Drainage Plans **HWQ-2:** Long-Term Erosion and Sediment Control Plan			
BIO-2: Establish and/or spread of noxious and invasive weeds or invasive wildlife species	**BIO-1:** Prepare and Implement a Worker Environmental Awareness Program (WEAP) **BIO-4:** Prepare and Implement a Weed Management Plan	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)
BIO-4: Result in loss or disturbance to nesting or breeding birds or raptors	**AES-1:** SMVR Lighting Guidelines **AQ-1:** Implement a Decommissioning Activity Management Plan (DAMP) **BIO-1** through **BIO-4**, **BIO-6** (see above) **BIO-7:** Prepare and Implement a Nesting Bird Management Plan **EM-2:** Project Plan Updating, Tracking, and Reporting	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)
BIO-5: Result in the loss or disturbance to any special-status plant species or their critical habitat	**AQ-1:** Implement a Decommissioning Activity Management Plan (DAMP) **BIO-1** through **BIO-6** (see above) **BIO-8:** Conduct Preconstruction Surveys for Special-Status Plants and Implement Avoidance Measures **EM-2:** Project Plan Updating, Tracking, and Reporting **HWQ-1**: Prepare and Implement Drainage Plans **HWQ-2:** Long-Term Erosion and Sediment Control Plan	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)
BIO-6: Result in the loss or disturbance to special-status terrestrial species, including invertebrates, fish, amphibians, reptiles, birds, and mammals or their critical habitat	**BIO-1** through **BIO-7** (see above) **BIO-9:** Conduct Biological Monitoring and Reporting **BIO-10:** Implement Wildlife Impact Avoidance and Minimization Measures **BIO-11:** Conduct Protocol-Level Surveys for Morro Shoulderband Snail and Implement Avoidance Measures **BIO-12:** Conduct Visual Presence/ Absence Surveys for Crotch's Bumble Bee and Implement Avoidance Measures **BIO-13:** Conduct Roosting Site Surveys for Monarch Butterfly and Implement Avoidance Measures	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)

Table ES-1. Summary of Significant Impacts and Mitigation Measures

Impact	Summary of Mitigation Measures	Level of Significance		
		Phase 1	Phase 2	Post-Decom
	BIO-14: Conduct Preconstruction Surveys for Special-Status Herpetofauna and Implement Avoidance Measures **BIO-15:** Install and Maintain California Red-Legged Frog Exclusion Fencing **BIO-16:** Conduct Clearance Surveys and Monitoring for California Red-Legged Frog **BIO-17:** Conduct Preconstruction Surveys for Overwintering Burrowing Owl and Implement Avoidance Measures **BIO-18:** Conduct Preconstruction Surveys for San Diego Desert Woodrat Middens and Implement Avoidance Measures **BIO-19:** Conduct Preconstruction Surveys for American Badger and Ringtail Dens and Implement Avoidance Measures **BIO-20:** Conduct Preconstruction Surveys for Roosting Bats and Implement Avoidance Measures **AQ-1, EM-2, HWQ-1, and HWQ-2** (see above)			
BIO-7: Result in the permanent or temporary loss or disturbance to habitats identified as, or that may qualify as, an Environmentally Sensitive Habitat Area (ESHA) under Section 30000 et. seq. of the California Coastal Act of 1976	**BIO-1** through **BIO-6** (see above) **AQ-1, EM-2, HWQ-1, and HWQ-2** (see above)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)
BIO-9: Result in the loss or disturbance to federal and State protected wetlands defined under Sections 401 and 404 of the Clean Water Act, the Porter-Cologne Water Quality Control Act, Section 30233 of the Coastal Act, Section 1600 et. seq. of the California Fish and Game Code, or other jurisdictional habitats	**BIO-1** through **BIO-3**, **BIO-6**, and **BIO-9** (see above) **EM-2, HWQ-1, and HWQ-2** (see above)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)

Table ES-1. Summary of Significant Impacts and Mitigation Measures

Impact	Summary of Mitigation Measures	Level of Significance		
		Phase 1	**Phase 2**	**Post-Decom**
Biological Resources – Marine				
MBIO-1: Destroy or degrade marine habitat(s) during decontamination and dismantlement activities including habitat of state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat	**MBIO-1:** Eelgrass Monitoring Plan **MBIO-2:** Marine Safety and Anchoring Plan **MBIO-3:** Water Quality Monitoring Plan **MBIO-4:** Cofferdam Installation and Dewatering Plan **MBIO-5:** Preconstruction Survey for Black Abalone **MBIO-6:** Marine Habitat Restoration and Monitoring Plan **MBIO-7:** Marine Mammal and Sea Turtle Mitigation and Monitoring Plan **MBIO-8:** Oil Spill Response Plan **MBIO-9:** Mooring Placement Habitat Survey	Significant and Un-avoidable (Class I)	Significant and Unavoidable (Class I)	Less than Significant with Mitigation (Class II)
MBIO-2: Harm or disturb marine special-status invertebrate, fish, reptile, bird, or mammal	**MBIO-5:** Preconstruction Survey for Black Abalone **MBIO-7:** Marine Mammal and Sea Turtle Mitigation and Monitoring Plan	Significant and Un-avoidable (Class I)	Significant and Unavoidable (Class I)	Less than Significant (Class III)
MBIO-3: Generate noise or vibration levels above or below the water surface that could result in disturbance or injury to marine life	**MBIO-7:** Marine Mammal and Sea Turtle Mitigation and Monitoring Plan	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)
MBIO-4: Release pollutants into receiving water during decommissioning activities	**MBIO-3, MBIO-4, MBIO-7, and MBIO-8** (see above) **HWQ-3:** Clean Marina Lease Provisions	Significant and Un-avoidable (Class I)	Significant and Unavoidable (Class I)	Less than Significant with Mitigation (Class II)
MBIO-5: Introduce invasive non-native marine species during decontamination and dismantlement activities	**MBIO-10:** Non-Native Aquatic Species Measures **MBIO-11:** Pre-Construction *Caulerpa* Survey **HWQ-3:** Clean Marina Lease Provisions	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)
Cultural Resources (Archaeology and Built Environment)				
CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5	**CUL-1:** Retain a County-qualified Project Archaeologist **CUL-2:** Retain County-qualified Project Archaeological Monitors **CUL-3:** Retain Chumash Tribal Monitors **CUL-4:** Retain a Project Osteologist **CUL-5:** Develop a Cultural Resources Monitoring and Discovery Plan **CUL-6:** Cultural Resources Worker Environmental Awareness Program **CUL-7:** Archaeological and Tribal Monitoring **CUL-8:** Unanticipated Discoveries	Significant and Un-avoidable (Class I)	Significant and Unavoidable (Class I)	Less than Significant with Mitigation (Class II)

Table ES-1. Summary of Significant Impacts and Mitigation Measures

Impact	Summary of Mitigation Measures	Level of Significance		
		Phase 1	Phase 2	Post-Decom
	CUL-9: Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources **CUL-10:** Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities **CUL-11:** Restrict Access to Environmentally Sensitive Areas for Marina Operations			
CUL-2: Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5	**CUL-1** through **CUL-11** (see above)	Significant and Un-avoidable (Class I)	Significant and Unavoidable (Class I)	Less than Significant with Mitigation (Class II)
CUL-3: Disturb any human remains, including those interred outside of formal cemeteries	**CUL-1** through **CUL-11** (see above) **CUL-12:** Discovery of Human Remains	Significant and Un-avoidable (Class I)	Significant and Unavoidable (Class I)	Less than Significant with Mitigation (Class II)
Cultural Resources (Tribal Cultural Resources)				
TCR-1: Cause a substantial adverse change in the significance of the Tribal Cultural Resource that is either listed or eligible for listing in the CRHR or in a local register of historical resources, or determined by the CEQA lead agency, in its discretion and supported by substantial evidence, to be significant.	**CUL-1** through **CUL-12** (see above)	Significant and Un-avoidable (Class I)	Significant and Unavoidable (Class I)	Less than Significant with Mitigation (Class II)
Geology, Soils, and Coastal Processes				
GEO-1: Expose structures, workers, and the public to damage or injury due to surface fault rupture, strong earthquake-induced ground shaking, seismically induced slope failures, liquefaction-related phenomena, expansive or unsuitable soils	**GEO-1:** Final Engineering and Geology Report and Geotechnical Investigation **GEO-2:** Seismic Hazard Coastal Processes Assessment of Discharge Structure Backfill	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)
GEO-2: Trigger erosion of loosened sediments or cause slope failure due to grading, excavation, and removal of surface impervious materials	**GEO-3:** Monitoring and Reporting of Potential Subsurface Structure Exposure **HWQ-1:** Prepare and Implement Drainage Plans **HWQ-2:** Long Term Erosion and Sediment Control Plan	Less than Significant (Class III)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)

Table ES-1. Summary of Significant Impacts and Mitigation Measures

Impact	Summary of Mitigation Measures	Level of Significance		
		Phase 1	**Phase 2**	**Post-Decom**
GEO-3: Destroy unique paleontological resources due to grading and excavation in geologic units of Moderate to High Paleontological Sensitivity	**GEO-4:** Prepare and Implement Paleontological Resource Monitoring and Mitigation Plan and Worker Environmental Awareness Program	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)
GEO-5: Expose structures, workers, and the public to damage or injury due to coastal hazards, including but not limited to flooding, wave runup, tsunamis, and bluff erosion and instability	**GEO-5:** Discharge Structure Backfill and Natural Bluff Site Inspection	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)	No Impact (NI)
GEO-6: Impair nearshore sediment properties, characteristics, or processes during and after decontamination and dismantlement activities	**MBIO-3**: Water Quality Monitoring Plan **MBIO-4:** Cofferdam Installation and Dewatering Plan **MBIO-9:** Mooring Placement Habitat Survey	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)	No Impact (NI)
GEO-8: Increase the effects of coastal flooding or erosion associated with sea level rise during and after decontamination and dismantlement activities	**GEO-5:** Discharge Structure Backfill and Natural Bluff Site Inspection	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)	No Impact (NI)
Greenhouse Gas Emissions				
GHG-1: Generate GHG emissions that may have a significant impact on the environment	**GHG-1:** Reduce GHG Emissions or Surrender Offset Credits	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)
Hazardous and Radiological Materials				
HAZ-1: Expose people to hazardous materials or create soil and/or groundwater contamination due to accidental spills or release of hazardous materials during decontamination and dismantlement activities	**HAZ-1:** Facility Hazardous Waste Permit Extension **HWQ-2:** Long-Term Erosion and Sediment Control Plan **HWQ-3:** Clean Marina Lease Provisions	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)
HAZ-2: Expose workers to hazardous materials from mobilization of existing soil or groundwater contamination	**HAZ-2:** Worker Registration/ Certification **HAZ-3:** Soil and Groundwater Site Characterization Work Plan	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	No Impact (NI)
HAZ-7: Trigger a wildland fire exposing structures and people to significant risk of loss, injury, or death	**PSU-1:** Facility Plan Updating, Tracking, and Reporting **PSU-2:** Retain the Diablo Canyon Fire Department and Emergency Facilities	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)

Table ES-1. Summary of Significant Impacts and Mitigation Measures

Impact	Summary of Mitigation Measures	Level of Significance		
		Phase 1	Phase 2	Post-Decom
Hydrology and Water Quality				
HWQ-1: Violate any water quality standards or waste discharge requirements, create substantial additional sources of polluted runoff, or require significant additional treatment of dewatered structures, systems, and components	**EM-2:** Project Plan Updating, Tracking, and Reporting **HWQ-1:** Prepare and Implement Drainage Plans **HWQ-2:** Long-Term Erosion and Sediment Control Plan **HWQ-3:** Clean Marina Lease Provisions	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)
HWQ-2: Degrade surface water quality as a result of chemical spills during decontamination and dismantlement activities or introduce contaminants to surface water as a result of groundwater dewatering during decontamination and dismantlement activities or at the off-site materials handling facilities	**HWQ-1:** Prepare and Implement Drainage Plans **HWQ-2:** Long-Term Erosion and Sediment Control Plan **HWQ-3:** Clean Marina Lease Provisions **MBIO-8:** Oil Spill Response Plan	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)
HWQ-3: Substantially degrade marine surface quality, including increasing turbidity and debris in the marine environment during decontamination and dismantlement activities, or potentially exceed California Ocean Plan salinity requirements or reducing dissolved oxygen concentrations upon cessation of power generation activities	**HWQ-3:** Clean Marina Lease Provisions **HWQ-4:** Turbidity Monitoring Plan **MBIO-3:** Water Quality Monitoring Plan	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)
HWQ-5: Increase soil erosion and sedimentation due to removing structures and/or impervious surface areas, altering drainage patterns, or exceeding the capacity of stormwater conveyance structures	**EM-2:** Project Plan Updating, Tracking, and Reporting **GEO-5:** Discharge Structure Backfill and Natural Bluff Site Inspection **HWQ-1**: Prepare and Implement Drainage Plans **HWQ-2:** Long-Term Erosion and Sediment Control Plan	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	No Impact (NI)
HWQ-6: In flood hazard, tsunami, or seiche zones, increase risk of pollutant release from Project activities or stored materials being inundated from flooding	**MBIO-8:** Oil Spill Response Plan	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)	Less than Significant (Class III)

Table ES-1. Summary of Significant Impacts and Mitigation Measures

Impact	Summary of Mitigation Measures	Level of Significance		
		Phase 1	**Phase 2**	**Post-Decom**
Land Use, Planning, and Agriculture				
LUP-1: Disrupt or displace an existing land use	**EM-2:** Project Plan Updating, Tracking, and Reporting **TRA-1:** Truck Transportation Outside of Peak Hours **TRA-2:** Specialty Heavy-Haul Transport Vehicle Transportation Management Plan **TRA-3:** Decommissioning Liaison **TRA-4:** Advance Notification of Decommissioning **TRA-5:** Quarterly Decommissioning Updates	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	No Impact (NI)
Noise				
NOI-1: Expose sensitive receptors to noise levels in excess of established standards	**NOI-1:** Noise Barrier at Pismo Beach Railyard	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)	Less than Significant (Class III)
NOI-2: Create a substantial permanent or temporary increase in ambient noise levels	**NOI-1:** Noise Barrier at Pismo Beach Railyard	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)	Less than Significant (Class III)
Cumulative Impact	**NOI-2:** Coordinate PBR and Frady Lane Realignment Construction Schedules	Less than Significant with Mitigation (Class II)	Not cumulatively considerable (Phase 2 and Post-Decom)	
Public Services and Utilities				
PSU-1: Affect emergency services including response times for fire or police protection that could necessitate new or altered public services or government facilities	**CUL-10:** Plan to Restrict Public Access After Removal of Diablo Road Guard House Facilities **PSU-1:** Facility Plan Updating, Tracking, and Reporting **PSU-2:** Retain the Diablo Canyon Fire Department and Emergency Facilities **TRA-1:** Truck Transportation Outside of Peak Hours **TRA-2:** Specialty Heavy-Haul Transport Vehicle Transportation Management Plan	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)
Recreation and Public Access				
REC-1: Result in permanent or temporary restrictions or prohibitions on public access, which could obstruct upland, shoreline, and water-dependent public access and recreation	**EM-2:** Project Plan Updating, Tracking, and Reporting **REC-1:** Commercial Fishing Operations Access Plan for Avila Beach Drive **TRA-1:** Truck Transportation Outside of Peak Hours **TRA-2:** Specialty Heavy-Haul Transport Vehicle Transportation Management Plan **TRA-3:** Decommissioning Liaison	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)

Table ES-1. Summary of Significant Impacts and Mitigation Measures

Impact	Summary of Mitigation Measures	Level of Significance		
		Phase 1	Phase 2	Post-Decom
	TRA-4: Advance Notification of Decommissioning **TRA-5:** Quarterly Decommissioning Updates **TRA-7:** Coordination with Harbormasters			
REC-2: Restrict access to coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways	**EM-2:** Project Plan Updating, Tracking, and Reporting **REC-1:** Commercial Fishing Operations Access Plan for Avila Beach Drive **TRA-1:** Truck Transportation Outside of Peak Hours **TRA-2:** Specialty Heavy-Haul Transport Vehicle Transportation Management Plan **TRA-3:** Decommissioning Liaison **TRA-4:** Advance Notification of Decommissioning **TRA-5:** Quarterly Decommissioning Updates	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)	Less than Significant (Class III)
REC-4: Expose users of recreational facilities to hazards during Project decommissioning	**EM-2:** Project Plan Updating, Tracking, and Reporting **TRA-2:** Specialty Heavy-Haul Transport Vehicle Transportation Management Plan **TRA-3:** Decommissioning Liaison **TRA-4:** Advance Notification of Decommissioning **TRA-5:** Quarterly Decommissioning Updates	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)
Transportation				
TRA-2: Add traffic to a roadway that has design features that are incompatible with the type of Project vehicles that are to be used	**EM-2:** Project Plan, Updating, Tracking, and Reporting **TRA-1:** Truck Transportation Outside of Peak Hours	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	No Impact (NI)
TRA-3: Alter roadway conditions, such as the closure of both lanes of traffic of a roadway that serves as the primary ingress and egress for an area, in a way that would result in inadequate emergency access	**EM-2:** Project Plan, Updating, Tracking, and Reporting **TRA-1:** Truck Transportation Outside of Peak Hours **TRA-2:** Specialty Heavy-Haul Transport Vehicle Transportation Management Plan **TRA-3:** Decommissioning Liaison **TRA-4:** Advance Notification of Decommissioning **TRA-5:** Quarterly Decommissioning Updates **TRA-6:** Diablo Creek Crossing Structure Inspection and Repair	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)
TRA-4: Reduce the existing level of safety for marine vessels because of offshore vessel use	**TRA-7:** Coordination with Harbormasters **TRA-8:** Marine Surveyor Assessment	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)

Table ES-1. Summary of Significant Impacts and Mitigation Measures

Impact	Summary of Mitigation Measures	Level of Significance		
		Phase 1	**Phase 2**	**Post-Decom**
Wildfire				
WF-1: Substantially impair an adopted emergency response plan or emergency evacuation plan	**PSU-1:** Facility Plan Updating, Tracking, and Reporting **PSU-2:** Retain the Diablo Canyon Fire Department and Emergency Facilities **TRA-1:** Truck Transportation Outside of Peak Hours **TRA-2:** Specialty Heavy-Haul Transport Vehicle Transportation Management Plan	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)
WF-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose workers or residences to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire	**PSU-1:** Facility Plan Updating, Tracking, and Reporting **PSU-2:** Retain the Diablo Canyon Fire Department and Emergency Facilities	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)
WF-3: Exacerbate fire risk or result in temporary or ongoing impacts to the environment due to the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities)	**BIO-3:** Implement Oak and Native Mature Tree Protection Measures **PSU-1:** Facility Plan Updating, Tracking, and Reporting	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)
WF-4: 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	**PSU-1:** Facility Plan Updating, Tracking, and Reporting **PSU-2:** Retain the Diablo Canyon Fire Department and Emergency Facilities	Less than Significant with Mitigation (Class II)	Less than Significant with Mitigation (Class II)	Less than Significant (Class III)

1. Introduction

As the Lead Agency under the California Environmental Quality Act (CEQA), the County of San Luis Obispo (County) prepared this Environmental Impact Report (EIR) to evaluate the potential impacts associated with Pacific Gas and Electric Company's (PG&E) application to decommission the Diablo Canyon Power Plant (DCPP). This EIR provides agencies and the public with detailed information about the effect the DCPP Decommissioning Project (Proposed Project or Project) would have on the environment, lists ways in which the significant effects might be avoided or substantially reduced, and identifies a reasonable range of potentially feasible alternatives to the Project. In addition, this document represents only one of the information sources used by the County in making its decision on the Proposed Project.

On March 24, 2021, PG&E submitted a Development Plan (DP) / Coastal Development Permit (CDP) and Conditional Use Permit (CUP) application package to the County for decommissioning of the DCPP. A revised application package was submitted to the County on July 8, 2021. DCPP is in an unincorporated area of San Luis Obispo County, under the jurisdiction of the County's Coastal Zone Land Use Ordinance and Inland Land Use Ordinance. The coastal portions of the DCPP site are also located within the jurisdiction of the California Coastal Commission (CCC) and California State Lands Commission (CSLC). Furthermore, the US Nuclear Regulatory Commission (NRC) has exclusive jurisdiction and regulatory authority over the radiological aspects of decommissioning of nuclear power plants in the United States.

On September 2, 2022, California Governor Gavin Newsom signed Senate Bill (SB) 846 into law, providing PG&E a path to continue operations at the DCPP, provided the site and the Applicant qualify for specific amounts of federal and State funding (Dodd, 2022). The legislation requires PG&E to seek external funding sources (including but not limited to the Federal Department of Energy's Civil Nuclear Credit Program and legislatively-approved funding from the California Department of Water Resources); conduct updated seismic studies; obtain State permits in a timely manner; and request NRC approval of continued operations. SB 846 also requires multiple state agencies to act swiftly to accommodate the potential path for DCPP's continued operations and includes several deadlines the Applicant must meet. If not met, PG&E would continue with decommissioning of DCPP as proposed in the existing DP/CDP and CUP Application to the County, and as evaluated in this EIR. Therefore, the County has continued processing PG&E's application for decommissioning while awaiting guidance from the State and federal agencies that are overseeing the potential for continued operations pursuant to SB 846.

1.1. Project Location and Objectives

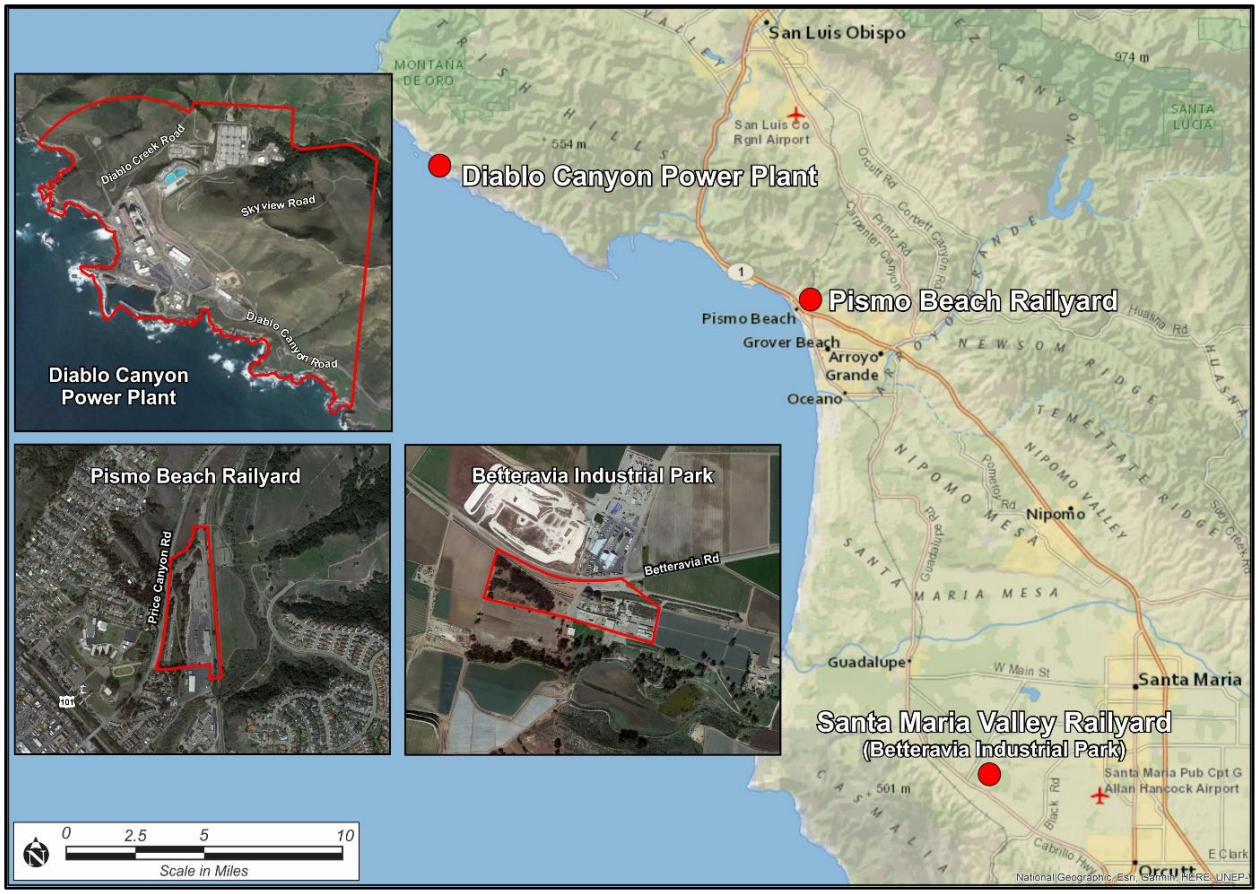
The Proposed Project involves three sites: (1) the DCPP site; (2) the Pismo Beach Railyard (PBR; contingency site); and (3) a Santa Maria Valley Railyard (SMVR) facility site known as Betteravia Industrial Park (SMVR-SB) (see Figure 1-1). The DCPP site is on the coast of San Luis Obispo County, California, approximately 7 miles northwest of the unincorporated community of Avila Beach. The DCPP facility site comprises a 750-acre high-security zone, which contains the developed 585-acre Parcel P owned by Eureka Energy Company (Eureka), a wholly owned subsidiary of PG&E, and the 165-acre area owned by PG&E. The DCPP is surrounded by approximately 12,000 acres of land, owned by either PG&E or Eureka, which extends from the southern border

of Montaña de Oro State Park in the north to the northern edge of Port San Luis in the south. The PG&E-owned PBR site is located off Price Canyon Road in the City of Pismo Beach in San Luis Obispo County, approximately 13 miles southeast of the DCPP site (see Figure 1-1). The SMVR facility site is within the County of Santa Barbara at Betteravia Industrial Park (SMVR-SB), approximately 30 miles southeast of the DCPP site (see Figure 1-1). Local regulation of the SMVR-SB site is preempted pursuant the Interstate Commerce Commission Termination Act (ICCTA) of 1995, which gives the federal Surface Transportation Board exclusive jurisdiction over transportation by rail carriers.[1] Accordingly, a local land use permit is not required for the improvements and use of the SMVR-SB site. With regard to CEQA, mitigation measures imposed on a rail site may not burden, prevent, or interfere with the railroad's operations. In the case of PG&E's use of the SMVR-SB site, both the landowner and SMVR have voluntarily agreed to allow PG&E to implement the mitigation measures identified in this EIR applicable to the SMVR-SB site in order to mitigate impacts.

The Proposed Project involves the decommissioning (withdraw from service and make inoperative) and dismantlement (break apart, decontaminate, and remove) of the existing DCPP as described further below. The Proposed Project would occur in two phases: (1) Phase 1: Preplanning and Decommissioning Project Activities (2024 through 2031), and (2) Phase 2: Completion of Soil Remediation, Final Status Surveys, and Final Site Restoration (2032 through 2039). The details of these phases are described in Section 2, *Project Description (Phases 1 and 2)*. Waste generated from decommissioning activities would be transported off site utilizing a blended approach, primarily consisting of ocean barging, as well as trucking and rail transport to out-of-state waste disposal facilities. DCPP facilities that would remain in place for PG&E use following completion of Phases 1 and 2, as shown in Figure 1-2, include: primary and secondary access roads; internal roads; 230 and 500 kilovolt switchyards; Independent Spent Fuel Storage Installation (ISFSI) (previously approved, not part of Proposed Project – see Section 1.1.2); and raw water reservoirs. The Proposed Project includes construction of a new Security Building, Firing Range, Storage Buildings, and Greater Than Class C (GTCC) Waste Storage Facility (all built in Phase 1). In addition, PG&E proposes to retain the existing Eastern and Western Breakwaters and Intake Structure, which would allow for potential future use of the Marina by a third party (the permitting of which is not part of the Proposed Project). Marina improvements are addressed in this EIR at a project-level consistent with the description of improvements assumed by PG&E. Additional CEQA analysis may be needed once a third party is actively seeking permits and a lease, and more is known about the specific modifications and anticipated Marina reuse activities. Any application for reuse would be evaluated for consistency with the assumptions presented in this EIR as part of the CEQA determination for a land use permit.

[1] *See* 49 United States Code (USC) §10101 et seq., and 49 USC §10501(b)(2).

Figure 1-1. Project Site Locations



Source: PG&E, 2021a – Figure 2.2.2-3; Google Earth Pro, 2021a, 2021b.

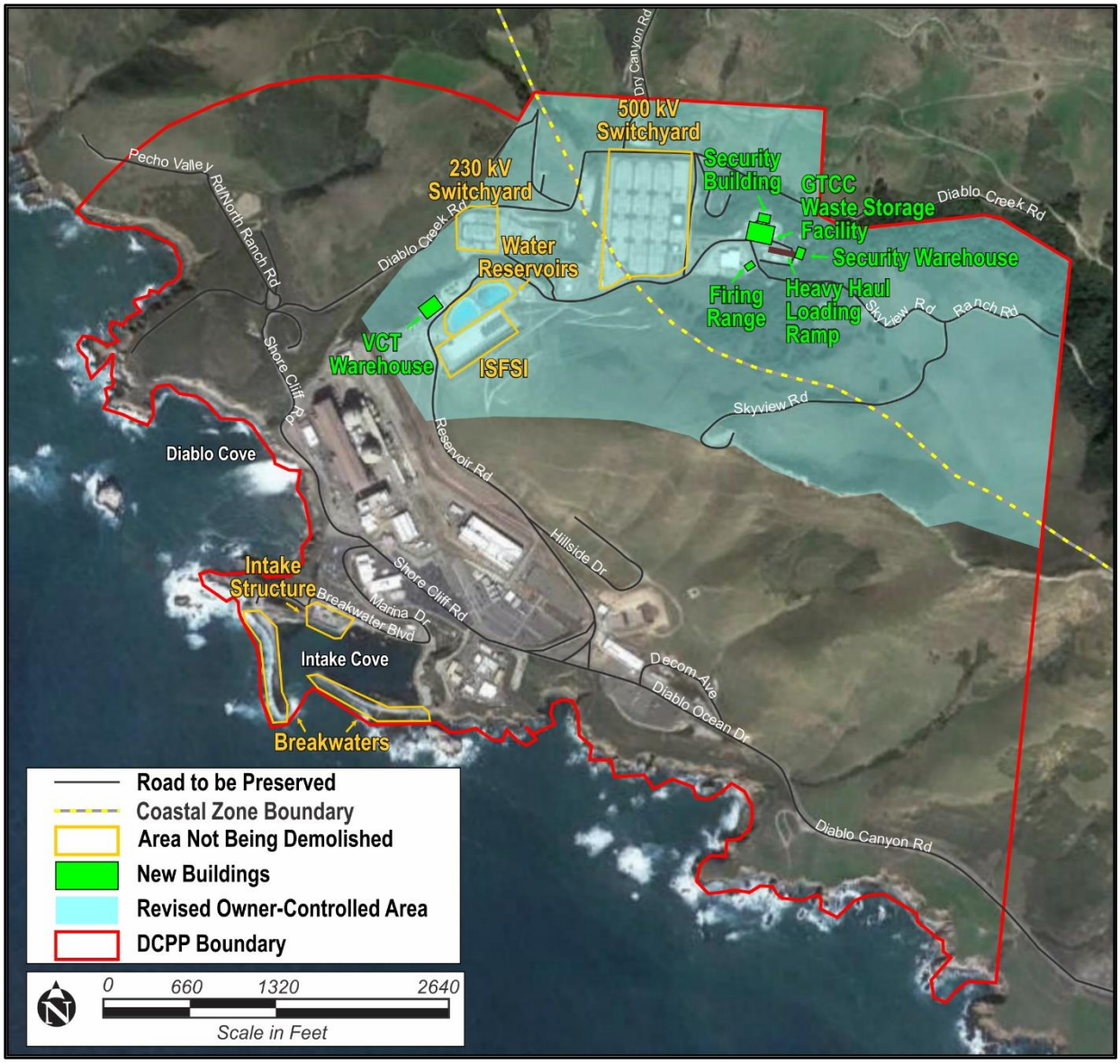
The existing Owner-Controlled Area (OCA), where access is limited by PG&E, would be reduced to encompass the remaining facilities, with the exception of the Eastern and Western Breakwaters and Intake Structure, once decommissioning of the DCPP is complete (see Figure 1-2). PG&E activities at the DCPP site following decommissioning would be limited to ISFSI (not part of the Proposed Project) and GTCC Waste Storage Facility operations until an off-site interim storage facility or permanent repository is available. Identification of an off-site repository for long-term storage of spent nuclear fuel (SNF) and GTCC waste is a concern both for DCPP and for nuclear power facilities across the nation and awaits resolution by the federal government.

After the closure of DCPP, the power-generating facility, appurtenant structures, and infrastructure would be decommissioned or repurposed in accordance with federal, state, and local requirements, and portions of the DCPP site returned to natural conditions (see Section 2.4.4, *Grading and Landscaping (Final Site Restoration)*). The following objectives have been identified by PG&E to ensure the Project is implemented in a safe, timely, and cost-efficient manner:

- Retain existing energy-infrastructure (e.g., switchyards, transmission lines, etc.) to meet customer needs
- Reduce radioactivity on the DCPP site in accordance with NRC regulations for unrestricted use
- Commence the Project to promptly complete radiological decontamination of the DCPP site

- Dismantle and remove facility infrastructure that is not to be repurposed in a manner that is least impactful to the environment
- Implement the Project in a manner that maximizes efficiencies (including weekend and nighttime work) and retains flexibility to respond to future conditions, including repurposing of existing infrastructure and/or new development at the DCPP site
- Create marine/harbor opportunities while protecting ecological resources through repurposing of the breakwater, Intake Structure, and associated harbor area
- Terminate the Part 50 NRC licenses for Unit 1 and Unit 2
- Complete the Project in a manner that ensures prudent use of customer funds set aside for the DCPP Decommissioning Plan

Figure 1-2. DCPP Site with Retained Facilities Following Decommissioning



Source: PG&E, 2021a – Figure 2.3.14-1; PG&E, 2021d – Appendix C, Revised Owner-Controlled Area; ERM, 2023.

1.2 Project Background

This section provides background information on PG&E's decision to not pursue renewal of the existing licenses to operate the DCPP reactors (Section 1.2.1) and information regarding the previous approval of the ISFSI and cask design approval processes (Section 1.2.2).

1.2.1 DCPP License Expiration and Retirement

The DCPP is a two-unit nuclear-powered electrical generating station that began commercial operation in 1985 for Unit 1 and 1986 for Unit 2 and is the last nuclear power plant still operating in California. The two reactor units are licensed by the US Nuclear Regulatory Commission (NRC) to operate until November 2, 2024 (Unit 1) and August 26, 2025 (Unit 2). Between 2009 and 2016, PG&E pursued efforts to renew these licenses, which would have allowed for the continued operation of DCPP until 2044 (Unit 1) and 2045 (Unit 2). The initial license renewal application was submitted to the NRC for Diablo Canyon's two reactors in November 2009. Between 2009 and 2016, PG&E progressed through different stages of license renewal for DCPP, including hearings, public meetings, audits, a safety evaluation report, and an environmental report with the DCPP's severe accident mitigation analysis. In 2016, however, PG&E decided to forgo efforts to renew its licenses to operate DCPP and reached an agreement (Joint Proposal Agreement [JPA]) with labor and environmental organizations to retire DCPP at the expiration of the existing operating licenses. This agreement also included replacement of DCPP power with a cost-effective, greenhouse gas (GHG)-free portfolio of energy efficient renewables and energy storage projects jointly proposed and supported by the parties of the JPA (PG&E, 2016; PG&E et al., 2016) with the retirement of DCPP and contingent on approval from the CPUC. The JPA included a commitment by PG&E to a 55 percent renewable energy target by 2031.

In January 2018, the CPUC Decision Approving Retirement of Diablo Canyon Nuclear Power Plant was issued (CPUC, 2018). The CPUC decision included approval of the retirement of DCPP Units 1 and 2, authorized PG&E to recover costs in rates for DCPP employee retraining and NRC license termination costs, and stated that PG&E's plans to purchase power to replace the DCPP should be addressed in CPUC Integrated Resource Planning (IRP) proceedings. The IRP proceedings were launched in February 2013, when the CPUC, the California Energy Commission, and the California Independent System Operator, committed to a joint-agency process for long-term power procurement planning. As a result, the CPUC directed all CPUC-jurisdictional Load Serving Entities (LSEs) (i.e., a company or utility that supplies electricity to a customer) to submit Integrated Resource Plans. After the approval of the retirement of DCPP in January 2018, the CPUC required all LSEs to include procurement of their share of replacement power for the retirement of the DCPP. SB 1090 (Monning, 2018) requires this replacement power to be sourced from non-GHG emitting resources.

To address "mid-term" reliability (2023-2026) and to specifically establish the emissions profile for the replacement capacity for DCPP's retirement, on June 24, 2021, the CPUC issued a decision requiring procurement of 2,500 megawatts (MW) from firm, zero-emitting resources by 2024, and assigned procurement responsibility to all LSEs based on their share of peak demand (CPUC, 2021a).

Since the announcement of the planned closure in 2016, PG&E has been planning for the decommissioning of DCPP by developing comprehensive technical studies to inform Project planning. These studies, along with extensive past studies completed at the DCPP site and surrounding lands, inform aspects of the DCPP decommissioning project. Upon final shutdown of the reactor units and assuming all permit conditions are acceptable, PG&E intends to transition DCPP immediately from an operating status into a decommissioning status (known as DECON). If permits are not issued in a timely fashion, PG&E would need to pursue a SAFSTOR Alternative. SAFSTOR is a method of decommissioning in which a nuclear facility is placed and maintained in a condition that allows the facility to be safely stored and subsequently decontaminated (deferred decontamination) to levels that permit release for unrestricted use. See Section 5.4, *Alternatives Evaluated in this EIR*, for further discussion. Under NRC regulations, license holders utilizing SAFSTOR have 60 years to complete decommissioning after the cessation of operations.

1.2.2 ISFSI Approval and Cask Design

In December 2001, PG&E submitted an application to the NRC requesting a site-specific license to build and operate an ISFSI to be located on the site of DCPP. On March 22, 2004, the NRC issued Materials License No. SNM 2511, pursuant to 10 CFR Part 72, authorizing PG&E to receive, possess, store, and transfer SNF resulting from the operation of DCPP in an ISFSI at the site for a term of 20 years (expires March 2024).

PG&E applied for its ISFSI CDP with the County on November 5, 2001. On April 20, 2004, the County conditionally approved CDP No. D010153D for construction and operation of the ISFSI. Several parties appealed (Mothers for Peace, the Santa Lucia Chapter of the Sierra Club, and Commissioners Nava and Wan) and on July 15, 2004, the CCC found the appeal raised substantial issues with respect to the grounds on which they were filed and opened a public de novo hearing. The CCC substantial issue determination transferred jurisdiction of the ISFSI project and any future permitting of the ISFSI project to the CCC. The key issues over which the CCC raised substantial issue were public access and geologic hazards. The CCC approved, as conditioned, the ISFSI project and subsequently issued a CDP (No. A 3 SLO 04 035) on December 8, 2004, for construction and operation of the ISFSI in perpetuity. Construction of the ISFSI began shortly thereafter. The ISFSI consists of seven storage pads containing space for 20 fuel storage casks each (140 total; 138 casks plus 2 spare spaces), which were expected to be adequate to hold all the spent nuclear fuel created during the licensed plant life. PG&E began transferring spent fuel to the ISFSI in 2009.

In March 2022, PG&E filed a License Renewal Application (LRA) for the ISFSI with the NRC, which by regulation must be submitted two years prior to license expiration. PG&E is requesting a 40-year ISFSI license renewal, with the option to renew in 20-year increments; however, current regulations only allow the original license and a license renewal duration of 40 years each. PG&E has developed Aging Management Programs that use periodic inspections to ensure the dry storage system components perform their functions properly. To support the LRA, PG&E conducted pre-application inspections that included seven times as many components compared to the industry standard of one to two components. These inspections confirmed there are no unique aging effects taking place at the ISFSI and help to ensure all potential aging effects are identified in the LRA. The NRC will independently review the inspection findings as it relates to

long-term aging management during its review of the LRA. The Aging Management Programs are expected to be incorporated as NRC requirements stemming from the LRA process. The NRC's decision on the ISFSI LRA is anticipated within 24 months and should occur before March 2024, when the current ISFSI license expires. (PG&E, 2022)

The dry cask storage system analyzed in the County's 2004 EIR for the Diablo Canyon ISFSI (MRS, 2004) and currently in use, after final approval of the ISFSI CDP by the CCC, is the Holtec International (Holtec) HI-STORM 100 System. The HI-STORM 100 System is comprised of three elements: (1) a multi-purpose canister capable of holding 32 fuel assemblies (MPC-32), (2) the HI-TRAC 125D transfer cask, and (3) the HI-STORM 100SA storage overpack (or storage cask). The HI-STORM 100SA storage overpack is a shortened and anchored version of the standard HI-STORM 100 System overpack. The anchored version (i.e., HI-STORM 100A and SA) has been certified by the NRC for general use at applicable on-site ISFSIs operated by a 10 CFR 50 license holder (NRC Docket Number 72-1014). A total of 58 Holtec canisters of SNF (each containing 32 SNF assemblies) are currently stored at the ISFSI, with each canister packed in its own storage cask. This inventory at the ISFSI would remain unchanged until the remaining SNF is transferred to the ISFSI as described below.

As part of the CPUC decision adopting the settlement agreement approving PG&E's 2018 Nuclear Decommissioning Cost Triennial Proceeding application (CPUC Decision 21-09-003), PG&E agreed to pursue procurement of a dry cask storage system which could enable the transfer of SNF to the ISFSI within four years of plant shutdown (CPUC, 2021b). To that end, PG&E held an informational meeting on February 22, 2019, to present information from three dry cask manufacturers (Orano, Holtec, and GNS) (Diablo Canyon Decommissioning Engagement Panel [DCDEP], 2021).

In April 2022, PG&E announced the selection of Orano's NUHOMS dry cask system for storage of the remaining SNF. The proposed Orano system would enable all of the SNF to be transferred from the Spent Fuel Pool to the ISFSI 23 months after Unit 2 is shutdown (DCDEP, 2022). Use of any new cask design at DCPP requires approval by the NRC based on the site-specific ISFSI license and DCPP site-specific conditions, including seismic design requirements (DCDEP, 2021). The NRC must also approve the enhanced thermal capabilities of the proposed system (DCDEP, 2022), which would enable PG&E to transfer hotter SNF to the ISFSI, allowing for earlier dismantlement of the SNF pools.

In addition, CCC CDP A 3 SLO 04 035, Special Condition 2 for the ISFSI states:

> ***Decommissioning or Changes to the ISFSI****: This permit does not authorize development activities associated with potential decommissioning of the ISFSI or changes to the ISFSI not described in permit submittals. The Permittee shall submit a new coastal development permit application or amendment to this permit if such activities are proposed.*

In March 2023, PG&E filed an application with the CCC to amend its CDP permit for the DCPP ISFISI to use the Orano system. On May 12, 2023, the CCC approved the amendment specifically allowing the use of the Orano system and making the site improvements to accommodate the system. Because construction and operation of the ISFSI serves an independent purpose and was

approved as part of a separate process, this EIR does not include an evaluation of the operation of the ISFSI or any modifications to the NRC license or CCC permitting/compliance requirements that may be required for its continued operations.

After permanent shutdown, regardless of approval or implementation of the Proposed Project, a total of 1,261 SNF assemblies from Unit 1 and 1,281 SNF assemblies from Unit 2 would be stored in the Spent Fuel Pools. These assemblies would be transferred to the ISFSI using about 69 SNF canisters which would be inserted into separate concrete Horizontal Storage Modules (HSM) (i.e., SNF casks). The HSMs would be placed side by side on the existing concrete ISFSI pad. Two rows of HSMs would be placed back-to-back. The transfer of the SNF canisters would occur from approximately 2025 through 2029. The Orano HSMs and canisters would be placed adjacent to the Holtec canisters on the existing concrete pads. Once all transfers of SNF have been made to the ISFSI, approximately 127 (58 Holtec and 69_Orano) storage casks would require management.

Typically, GTCC waste is placed into casks similar to those used for dry cask storage and, in some cases, stored with the SNF casks at the ISFSI. However, the DCPP ISFSI site-specific license (SNM 2511) does not include GTCC waste material as part of the allowed contents of the ISFSI. As such, a new GTCC Waste Storage Facility is proposed as part of the DCPP Decommissioning Project. PG&E would need NRC approval to amend its ISFSI license or apply for a new license to enable GTCC storage on the DCPP site. The GTCC Waste Storage Facility would also utilize the Orano NUHOMS dry cask system.

1.3 Legal and Governmental Authority

1.3.1 Local

1.3.1.1 County of San Luis Obispo

The County of San Luis Obispo (County) Planning and Building is the County agency responsible for reviewing PG&E's application for decommissioning of the DCPP and, as CEQA Lead Agency, for evaluating potential environmental impacts from the Project. The County's jurisdiction covers the coastal and inland portions of the DCPP site. The County's certified Local Coastal Program (LCP) authorizes the County to regulate land use activities within the County's LCP jurisdiction, which is from the mean high-tide line to the inland boundary of the coastal zone at the DCPP site. The County also has jurisdiction over the inland portions of the DCPP through the Inland Land Use Ordinance.

Title 23 of the Coastal Zone Land Use Ordinance (CZLUO) applies to all "development" (including demolition, soil remediation and site grading as defined),within the unincorporated areas of the County that are located within the California coastal zone as established by the California Coastal Act of 1976 and outside of the CCC's original (i.e., retained) jurisdiction. Section 23.02.034 of the CZLUO requires a DP/CDP to enable public review of significant land use proposals and ensure the proper integration into the community. Unincorporated areas located outside of the California coastal zone are regulated by the standards found in Land Use Ordinance (LUO) Title 22. The County will require a DP/CDP for the Project for "development" within the County's LCP

jurisdiction (activities above mean high-tide line to the inland boundary of the coastal zone) and pursuant to Section 22.62.060 of the County's LUO, a CUP for any decommissioning activity that involves a significant new use outside the coastal zone. Figure 1-3 shows the County's jurisdiction at the DCPP site; other agency jurisdictions including the NRC, CCC, and CSLC are also shown on the figure.

Other County departments have jurisdiction over different and focused areas of the Project and have provided input on PG&E's application and this EIR. These departments include the Building Division, County Fire Department, Environmental Health, Parks, and Public Works, as examples. Some of these County departments will require ministerial permits, including grading permits, building permits, and demolition permits. These ministerial permits will be issued after a final decision on the CDP/CDP and CUP for the Project.

1.3.1.2 Other Local Agencies and Districts

The Project includes railyards that are outside the jurisdiction of the County and/or the State. The policies and requirements of the City of Pismo Beach and County of Santa Barbara have been reviewed and considered in the development of this EIR and to address all potential environmental impacts associated with the Project. The City of Pismo Beach may also issue land use and other permits for use of the PG&E-owned PBR site as part of the Proposed Project. The SMVR-SB railyard site is federally preempted from local regulatory oversight (see Section 1.3.3.2, *Surface Transportation Board*). Construction and operation of the SMVR-SB site and operation of rail lines are not subject to local land use regulation because the local and state agencies' regulatory authority is preempted by the ICCTA.[2] Courts have determined that, when the activity at issue is performed by a rail carrier, ICCTA preempts state or local regulation.[3]

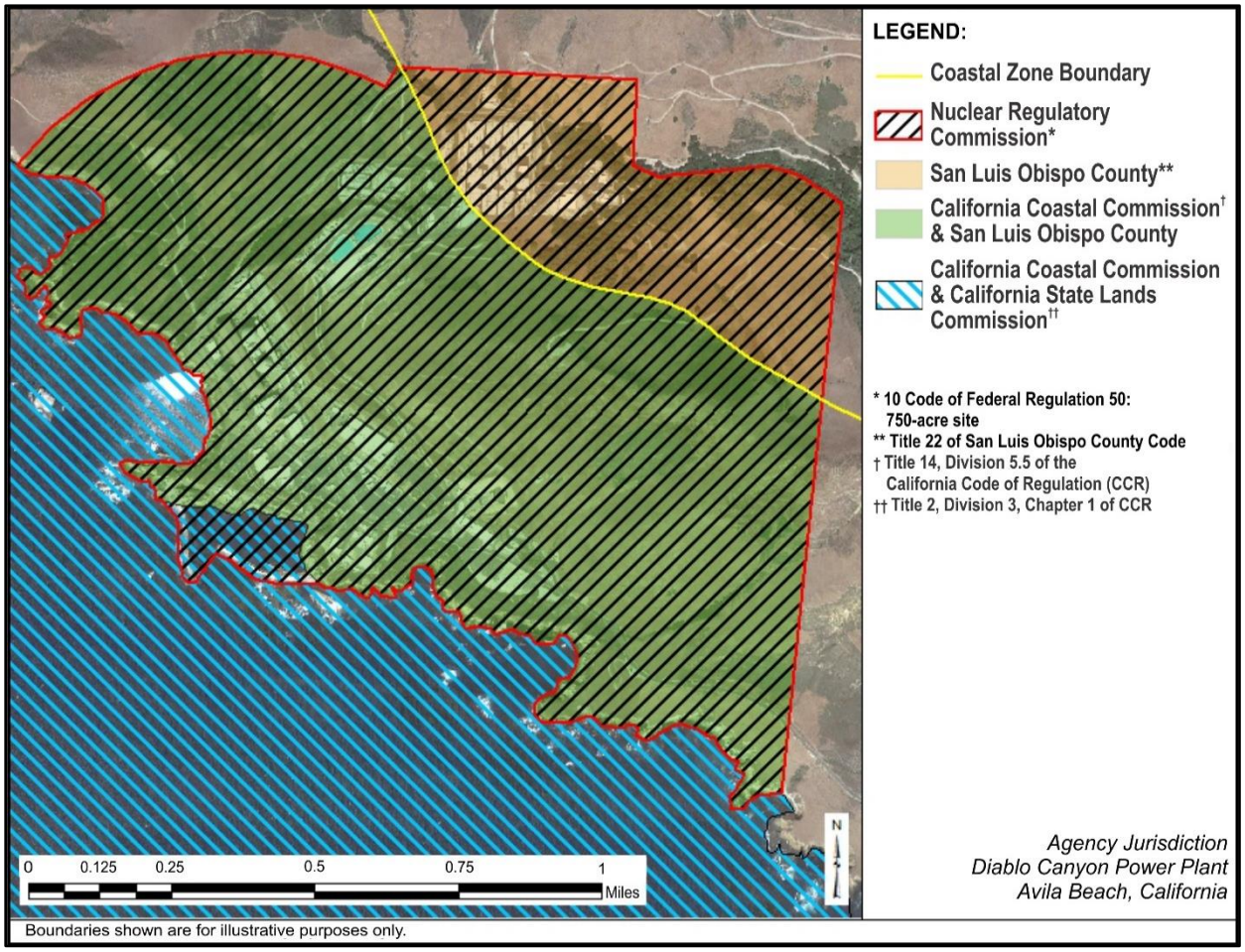
In addition, the County has coordinated with the San Luis Obispo Air Pollution Control District (SLOAPCD) regarding the air and GHG emissions associated with the DCPP site and the Pismo Beach railyard. The SLOAPCD would evaluate the Proposed Project for consideration of any air quality-related permits. For the railyard in unincorporated Santa Barbara County (SMVR-SB), the Santa Barbara APCD was also contacted regarding development within the railyard. The Santa Barbara APCD would have evaluated the Proposed Project for consideration of Authority to Construct permits, except for the ICCTA's preemption of state and local regulatory authority. Therefore, the County's coordination with Santa Barbara APCD has been more collaborative than CEQA-related.

Table 1-1 includes all local and regional agency permits and authorizations anticipated in support of the Proposed Project.

[2] *See* 49 USC §10501(b)(1).

[3] *People v. Burlington N. Santa Fe R.R*. (2012) 209 Cal.App.4th 1513, 1528, and *New York & Atlantic Railway Co. v. Surface Transportation Board* (2nd Circuit Court, 2011) 635 F. 3d at pages 66 and 72

Figure 1-3. Agency Jurisdictions at the DCPP Site



Source: PG&E, 2021d – PD-1/Appendix A.

1.3.2 State

1.3.2.1 California Coastal Commission

The entire 750-acre DCPP site lies within unincorporated San Luis Obispo County, with approximately two-thirds of the DCPP site within the California coastal zone, as defined by the California Coastal Act of 1976, and the remaining approximate one-third outside the California coastal zone.

The CCC will require a CDP for the Proposed Project for activities within the CCC's original jurisdiction (activities below mean high tide line, see Figure 1-3), pursuant to the California Coastal Act (Pub. Resources Code, § 30000 et seq.) and may conduct a consistency review under the federal Coastal Zone Management Act (CZMA) for NRC and any other federally authorized actions related to decommissioning. The CDP will serve as the primary state development permit required for any decommissioning activity that constitutes development within the CCC's original jurisdiction of the California coastal zone at the DCPP site. The segment of the DCPP site within

the California coastal zone is also within the appeal jurisdiction of the CCC. The following is a summary of existing permits from the CCC for DCPP:

- In 1983 CCC approved CDP No. A-4-82-593 for the Training/Simulator Building at the DCPP
- In 2004, CCC approved CDP No. A-3-SLO-04-035 for the construction and operation in perpetuity of the ISFSI at the DCPP site (refer to Section 1.2.2, *ISFSI Approval and Cask Design*)
- In 2006, CCC approved CDP No. E-06-011 and A-3-SLO-06-017 for the Steam Generator Replacement Project

The PBR is located entirely within the incorporated City limits of Pismo Beach; a small portion of the southwestern corner of the PBR occurs within the coastal zone. The SMVR-SB site is located outside the coastal zone. As previously noted, the rail yard sites were evaluated cooperatively by the City of Pismo Beach and the County of Santa Barbara; however, any construction at, or operations at, the SMVR-SB site is under the jurisdiction of the federal Surface Transportation Board, pursuant to 49 USC §10501 et seq. and 49 USC §20106 et seq.[4]

1.3.2.2 California State Lands Commission

As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. Pursuant to the common law Public Trust Doctrine, the State holds these lands for the benefit of all people of the State for statewide Public Trust purposes and needs that include, but are not limited to, waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. Uses that do not fit squarely into the traditional, judicially recognized Public Trust purposes, but that do not substantially interfere with the trust upon which such lands and resources are held, and otherwise are in the best interests of the State, may be deemed to not substantially interfere with the common law Public Trust Doctrine and the CSLC's responsibilities, as trustee, under that doctrine. The CSLC will make the final determination as to effects on State-owned sovereign lands. See Section 7.4, *State Tide and Submerged Lands Possessing Significant Environmental Values*.

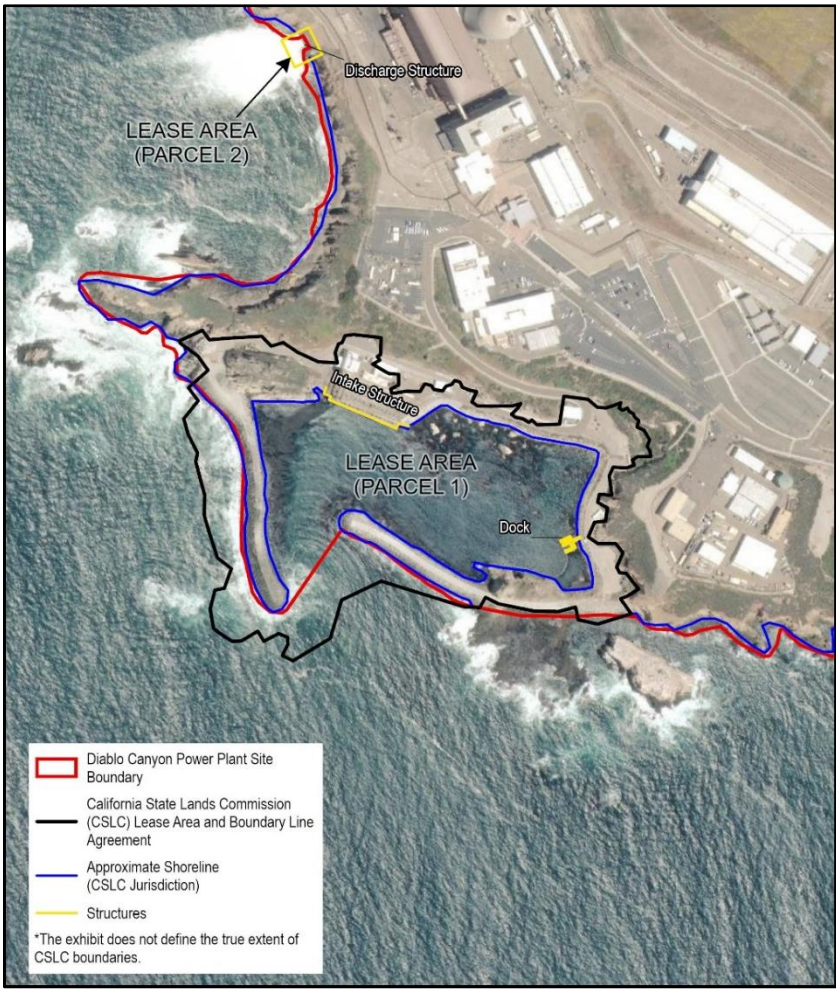
The CSLC has jurisdiction over the offshore portions of State-owned sovereign land adjacent to the DCPP site, which includes portions of the facility that extend on to filled and unfilled tide and submerged lands of the Pacific Ocean. Additional upland areas are also within the CSLC jurisdiction as denoted by the black line in Figure 1-4, which denotes the area covered by a

[4] 49 USC §10501 et seq (the ICCTA) categorically preempts states or local governments from intruding into regulation of matters directly regulated by the Surface Transportation Board, such as rates for railroad services, operational services, construction of railroads and rail yards, or abandonment of rail facilities. Further, the Federal Railroad Safety Act (49 U.S.C. § 20101 et seq.) establishes a broad scope of federal control related to railroad safety and laws, regulations, and orders related to railroad security, which must be nationally uniform to the extent practicable. Specifically, it states that "A State may adopt or continue in force a law, regulation, or order related to railroad safety or security until the Secretary of Transportation (with respect to railroad safety matters), or the Secretary of Homeland Security (with respect to railroad security matters), prescribes a regulation or issues an order covering the subject matter of the state requirement." (49 U.S.C. § 20106(a)(2).) The law's exceptions provide for a State to enforce or adopt more stringent requirements related to railroad safety only if the regulation(s) is(are) necessary to eliminate or reduce a local hazard and/or will not "unreasonably burden interstate commerce."

Boundary Line Agreement established between CSLC and PG&E when the Intake Structure and Breakwaters were constructed (CSLC, 2022a).

Facilities within the CSLC jurisdiction at the DCPP site include the Discharge Structure, Intake Structure, Breakwaters, Marina (includes the boat dock and rip rap along the shore of the Marina), storage facility, office facilities, intake electrical room, intake maintenance shop, equipment storage pad, and spare tri-bar storage.

Figure 1-4. CSLC Jurisdiction at the DCPP Site



Source: PG&E, 2021c; CSLC, 2020; CSLC 2022b.

On June 28, 2016, CSLC authorized lease PRC 9347.1 for continued use and maintenance of these facilities. The current lease states in Section 2, Paragraph 5(i), that upon expiration or termination of the lease the "Lessee [PG&E] must remove all or any Improvements, together with the debris and all parts of any such Improvements at its sole expense and risk, in accordance with a decommissioning and restoration plan under Section 3, Paragraph 13(a)(3), regardless of whether Lessee actually constructed or placed the Improvements on the Lease Premises. Lessor may waive all or any part of this obligation in its sole discretion if doing so is in the best interests of the State." (CSLC, 2016)

As summarized above, the Proposed Project includes removal of the Discharge Structure as part of Phase 1 and retention of the Breakwaters and Intake Structure for potential future permitting and reuse by a third party. A new lease or amendment to lease PRC 9347.1 will be required for the disposition of the Discharge Structure and other facilities within CSLC jurisdiction, as part of decommissioning and for retention and repurposing of the Breakwaters and Intake Structure. Furthermore, restoration of marine habitats will be necessary following the demolition of the discharge structure.

1.3.2.3 California Department of Toxic Substances Control

The California Department of Toxic Substances Control (DTSC) regulates the hazardous component of mixed waste or combined waste (waste containing both hazardous and low-level

radioactive materials). The radioactive component is regulated by the NRC. The following is a summary of existing and anticipated permits from DTSC for the DCPP facility and Proposed Project activities (PG&E, 2021a):

- In 2006, DTSC issued a Resource Conservation and Recovery Act (RCRA) Equivalent Waste Treatment Storage & Disposal (TSDF) Permit (No. CAD077966349) for the operation of a hazardous waste facility at DCPP. This permit was renewed on September 26, 2018 and expires on September 26, 2028.
- The Proposed Project will utilize the existing RCRA TSDF Permit throughout the Decontamination and Dismantlement phases of decommissioning. PG&E will seek an extension of the existing RCRA TSDF prior to the expiration date on September 26, 2028.

1.3.2.4 Other State Jurisdiction

Additional state agencies have authority over specific components of ongoing operations at DCPP and/or the PBR site, such as the California Department of Fish and Wildlife (CDFW) and Central Coast Regional Water Quality Control Board (CCRWQCB), among others. All anticipated state permits, authorizations, and required consultation anticipated in support of the Proposed Project are summarized in Table 1-1.

1.3.3 Federal

1.3.3.1 US Nuclear Regulatory Commission

The NRC has regulatory authority over the decommissioning of nuclear power plants in the United States. During decommissioning and until a facility's NRC operating license is terminated, the NRC is also responsible for on-going inspection and monitoring of all liquid and airborne radiological releases; any such releases must be maintained below the same radiological limits as when the plant was in operation. Pursuant to NRC regulations, decommissioning of the DCPP must be completed within 60 years after operations permanently cease, unless the NRC approves an extension. Specifically, the NRC (NRC, 2017) states:

> *When a power company decides to close a nuclear power plant permanently, the facility must be decommissioned by safely removing it from service and reducing residual radioactivity to a level that permits release of the property and termination of the operating license. The Nuclear Regulatory Commission has strict rules governing nuclear power plant decommissioning, involving cleanup of radioactively contaminated plant systems and structures, and removal of the radioactive fuel. These requirements protect workers and the public during the entire decommissioning process and the public after the license is terminated.*

In 2002, the NRC prepared, pursuant to the National Environmental Policy Act (NEPA), a Final Generic Environmental Impact Statement (GEIS) on Decommissioning of Nuclear Facilities Supplement (2002 GEIS Supplement; NUREG-0586) to analyze environmental impacts associated with the decommissioning of nuclear power plants throughout the United States (NRC, 2002). Prior to conducting any major decommissioning activity, a licensee must demonstrate in a Post Shutdown Decommissioning Activities Report (PSDAR) that the environmental impacts associ-

ated with its particular nuclear power plant decommissioning effort are bounded by (i.e., fall within) the impacts evaluated in the NRC's 2002 GEIS Supplement or other previously issued environmental assessment or Environmental Impact Statement (EIS), or additional NEPA review would be necessary. The environmental impacts described in the NRC's 2002 GEIS Supplement supersede those described in the prior GEIS prepared in 1988 (1988 GEIS). The NRC's 2002 GEIS Supplement is considered a stand-alone document such that readers should not need to refer to the 1988 GEIS.

The status of DCPP's PSDAR is discussed below.

- On December 4, 2019, PG&E submitted the DCPP PSDAR (PG&E, 2019a) to the NRC. The PSDAR included the plans and schedule to decommission DCPP reactor Units 1 and 2, compared potential environmental impacts of DCPP Decommissioning Plan activities to the NRC's 2002 GEIS Supplement and other EISs, and concluded that, except for the PBR modifications (which have since been reduced to installation of approximately 1,000 feet of track, wood railroad ties, and adding gravel), these impacts are bounded by the NRC's 2002 GEIS Supplement and other EISs (i.e., GEIS in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Nuclear Facilities, NUREG-1496 [1997]; the Final Environmental Statement related to the Nuclear Generating Station Diablo Canyon Units 1 and 2 [1973]; and the Addendum to the Final Environmental Statement for the Operation of the Diablo Canyon Nuclear Plant Units 1 and 2 [1976]) (PG&E, 2019a).
- PG&E also submitted an Irradiated Fuel Management Plan (IFMP) for Units 1 and 2 that summarized the plans for managing SNF on site pending eventual transfer of the SNF for interim storage or permanent disposal (PG&E, 2019b).
- In October 2021, PG&E notified the NRC of changes to its PSDAR related to the retainment of the Intake Cove and structures associated with it, and modifications to its strategy for transporting radioactive and other waste from the site. PG&E committed to providing the NRC with an updated PSDAR within six months of filing each Nuclear Decommissioning Cost Triennial Proceeding with the California Public Utilities Commission, but it has not yet filed an updated PSDAR with the NRC. (PG&E, 2021e)
- As part of the review process, the NRC held an in-person and on-line meeting on July 21, 2022 to take public comments from the local community on PG&E's PSDAR and IFMP. The comment period extended through October 19, 2022 (San Luis Obispo, 2022).

Federal Preemption. The NRC's exclusive jurisdiction over the radiological aspects of decommissioning preempts states and local jurisdictions from imposing any regulatory requirements related to radiation hazards or nuclear safety (see Pacific Gas and Electric Company v. State Energy Commission, 461 U.S. 190, 103 S.Ct. 1713 [1983]). PG&E is required by its NRC operating license to implement detailed plans and procedures to ensure that radiological releases are minimized or avoided. Due to federal preemption requirements, these plans and procedures are outside the County's and State of California's authority. Further, federal preemption applies to issues concerning the handling, storage, transport, disposal, and monitoring of SNF and high-level radioactive waste (HLW). For example, the Nuclear Waste Policy Act of 1982, as amended (42 United States Code [U.S.C.] chapter 108), in part:

- establishes federal policy for a schedule for the siting, construction, and operation of repositories "that will provide a reasonable assurance that the public and the environment will be adequately protected from the hazards posed by high-level radioactive waste and such spent nuclear fuel as may be disposed of in a repository" (42 U.S.C. § 10131 (b)(1));
- establishes the federal responsibility, and a definite federal policy, for the disposal of SNF and HLW; and
- defines the relationship between the federal and state governments with respect to the disposal of SNF and HLW.

1.3.3.2 Surface Transportation Board

By adopting the ICCTA, the United States Congress preempted many options for state and local governments to exercise control over railroads. Specifically, the federal Surface Transportation Board has exclusive jurisdiction over "transportation by rail carriers" including any "construction, acquisition, operation, abandonment, or discontinuance of [rail] spur[s]… even if the tracks are located, or intended to be located, entirely in one State." Because Proposed Project activities at the SMVR-SB site would be related to operations of tracks by a rail carrier, the ICCTA's preemption over state and local jurisdiction applies to the construction at and operation of the SMVR-SB site for the purposes of the decommissioning project. For the PG&E-owned PBR site, since PG&E is not a railroad operator, construction at and operation of the PBR site is not federally preempted.

1.3.3.3 US Environmental Protection Agency

The NRC and the US Environmental Protection Agency (EPA) both oversee the remediation of sites that have potential radiological contamination. In 1999, the US House of Representatives Appropriations Committee directed the two federal agencies to adopt a memorandum of understanding to clarify EPA's involvement at NRC-regulated sites (i.e., nuclear power generation facilities). EPA has historically contended that, once a site's NRC license has been terminated, EPA's standards should apply to the site. EPA's guidance for implementing the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) suggests each radiological site should be remediated to 15 mrem/y of potential annual exposure (EPA, 1997).

In 2002, the NRC and the EPA signed a Memorandum of Understanding agreeing that the NRC has jurisdiction over decommissioning nuclear power plant sites, but in instances where a site may exceed the CERCLA remediation thresholds, the NRC shall seek the EPA's assistance in reviewing the license termination plan. EPA further agreed to only resolve any CERCLA issues that are outside of the NRC's jurisdiction at NRC-licensed sites. That includes any chemical or hazardous wastes that may have been used or created at the site, pursuant to the Federal Resource Conservation and Recovery Act. (EPA and NRC, 2002)

1.3.3.4 Other Federal Jurisdiction

The NRC, EPA, US Department of Energy (DOE), and US Department of Defense (DOD) created a joint Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) in August 2000, which provides information about how to conduct final radiological status surveys (NRC, EPA, DOE, DOD, 2000). The MARSSIM aims to provide a consistent approach across Federal agencies responsible for overseeing radiological cleanup to ensure an effective use of staff and licensee

resources while also meeting federally established criteria for site release and license termination.

The DOE was obligated by law to begin taking possession of, and permanently disposing of, spent nuclear fuel by January 31, 1998 (42 USC §10101 et. Seq. (1982), 42 USC §10222(a)(5)(B) and 10 CFR §961.11, Article II (1996)). PG&E has suggested to the NRC that its post-shutdown decommissioning costs assume the federal government will start initiating transfer of spent nuclear fuel from DCPP in 2038, and complete transfer of the site's spent fuel stockpile to a federal repository by 2067 (PG&E, 2019c). However, these dates are dependent upon the DOE identifying a site for a federal repository and its schedule for receiving spent fuel from other decommissioned nuclear facilities. In 2013, the DOE issued a report titled "Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste," which suggests the federal government may establish a temporary storage facility by 2025 and identify a permanent repository by 2048 (DOE, 2013).

The DOE is now pursuing a consent-based siting process for the interim storage of SNF and HLW. Through this process, the DOE will work with interested communities to determine whether hosting an interim storage facility aligns with a community's interests and goals and follows a process that includes funding opportunities for interested communities (DOE, 2017).

Additional federal agencies may have authority over specific components of ongoing operations at DCPP, PBR, or SMVR-SB sites, such as Department of Interior, Bureau of Land Management (BLM), and National Marine Fisheries Service, among others. All federal permits, authorizations, and required consultation anticipated in support of the Proposed Project are summarized in Table 1-1.

1.3.4 Anticipated Permits and Approvals

As stated in CEQA, an EIR shall identify the ways in which the lead and responsible agencies would use the document in their approval or permitting processes (State CEQA Guidelines, § 15124, subd. (d)). The County, as the CEQA Lead Agency preparing this EIR, is responsible for considering the effects of all reasonably foreseeable activities involved in the Proposed Project; each responsible agency is responsible for considering the effects of those activities that it is required by law to carry out or approve (Pub. Resources Code, § 21002.1, subd. (d)). The information provided in this EIR, if certified, will assist the County in its decision on the Proposed Project. Table 1-1 provides a list of the anticipated permits and approvals for the DCPP Decommissioning Project.

Table 1-1. Anticipated Approvals and Authorizations for DCPP Decommissioning

Agency	Permit / Approval / Consultation	Covered Activity	Phase(s)
Local/Regional			
San Luis Obispo County Planning and Building Department	CDP	Any decommissioning activity that involves "development" in the coastal zone. Covers onshore facilities to the Eastern Coastal Zone (approx. to the western edge of 500kV switchyard).	1, 2
	CUP	Any decommissioning activity that involves a new use outside the coastal zone.	1, 2
	Major Grading Permit	For grading or excavations >5,000 cubic yards (CY).	1, 2
	Grading Permit	Minor grading permits for grading or excavations >50 CY and <5,000 CY.	1, 2
	Demolition Permit	Demolition of one or more structures.	1, 2
	Building Permit	Construction of one or more structures.	1, 2
San Luis Obispo County Environmental Health Department	Permit to Operate (PTO)	Operation of underground and above ground petroleum storage tanks, hazardous materials handling, hazardous waste generation, Spill Prevention Control and Countermeasure Plan, or Hazardous Materials Business Plan.	1, 2
San Luis Obispo Air Pollution Control District (SLOAPCD)	Authority to Construct (ATC)	Any activity that may cause the release of air contaminants. Construction of the Rad Wastewater Processing Facility and Waste Management Facility.	1, 2
	PTO	Use of any article, machine, equipment, or other project, the use of which may cause, increase, eliminate, reduce or control the release of air contaminants. Contaminated soil management and operation of diesel-powered construction equipment.	1, 2
	National Emission Standards for Hazardous Air Pollution (NESHAP) Notification	Demolition of any kind of structure or asbestos-containing material disturbance. Includes demolition of concrete structures, buildings, thermal insulation, pipelines, etc.	1, 2
San Luis Obispo County Public Health Department	Non-Community Drinking Water System Permit	Authorization to Operate Non-Community Drinking and Domestic Water System.	1, 2
San Luis Obispo County Public Works	Transportation	Heavy haul or oversize loads on County roads.	1, 2
	Encroachment Permit	Work within County roads.	1, 2
Santa Barbara County Public Works	Transportation	Heavy haul or oversize loads on County roads.	1
	Encroachment Permit	Work within County roads.	1
	Electrical Permit	Electrical improvements at SMVR-SB site.	
City of Santa Maria Public Works	Transportation	Heavy haul or oversize loads on City roads.	1
	Encroachment Permit	Work within City roads.	1
	Electrical Permit	Electrical improvements at SMVR-SM site.	
San Luis Obispo Fire Marshal's Office	Plan review	Decommissioning activities, including building demolition and fire protection, comply with all fire protection requirements, including California Fire Code.	1, 2
Port San Luis Harbor District	Land Use Permit	For any use of waters, lands, and facilities under ownership and jurisdiction of Port San Luis Harbor District.	1

Table 1-1. Anticipated Approvals and Authorizations for DCPP Decommissioning

Agency	Permit / Approval / Consultation	Covered Activity	Phase(s)
State			
CCC	License Termination, CZMA Review, Application and Certification Through CCC	Federal review required for local actions to determine consistency with CZMA Plans.	1, 2
	CDP	Any decommissioning activity that involves "development" in the coastal zone.	1, 2
CSLC	New Lease or Lease Amendment	A new lease or amendment to lease No. PRC 9347.1 would be required for the disposition of the Discharge Structure as part of decommissioning and for retention and repurposing of the Breakwaters and Intake Structure. Furthermore, restoration of marine habitats would be necessary following demolition of the Discharge Structure.	1, 2
California Air Resources Board	Portable Equipment Registration Program	Any plan that involves use of portable equipment over 50 horsepower.	1, 2
California Office of Historic Preservation	Section 106 Consultation pursuant to the National Historic Preservation Act	Any plan that involves earth work near an archeological site or may affect a historic building or property.	1, 2
California Department Toxic Substances Control (DTSC)	RCRA Permit, Consultation on final site Remediation Plan	Cleanup pursuant to Voluntary Cleanup Agreement or Corrective Action pursuant to RCRA. Any plan that involves hazardous material remediation.	1, 2
California State Water Resources Control Board (SWRCB)	Once-through Cooling (OTC) Policy	OTC policy – Oversight of impingement and entrainment issues.	1, 2
Central Coast Regional Water Quality Control Board (CCRWQCB)	Waste discharge requirements	Discharges of waste to water on land that could affect the quality of waters of the state.	1, 2
	National Pollutant Discharge Effluent System permit	Discharges of waste to surface waters deemed waters of the United States.	1, 2
	Construction storm water general permit	Ground disturbance of one or more acres.	1, 2
	Section 401 Water Quality Certification	Any activity that would result in impacts to State waters. Required if a 404 permit is required from the USACE.	1
California Department of Fish and Wildlife (CDFW)	Streambed Alteration Agreement	Activities that would substantially divert or obstruct the natural flow of a stream; substantially change or use any material from the bed, channel or bank of a stream; or deposit debris, waste or other material.	1
	License for Kelp Removal	Surface canopy kelp harvesting.	1, 2
	Special Use Permit	Removal of Benthic Kelp from the DCPP Intake Cove Exclusion Zone. Activities potentially impacting the Point Buchon Marine Protected Area.	1, 2
	Incidental Take Permit	Take of California Listed Species.	1
California Department of Transportation (DOT)	Transportation permit for state highways	Heavy haul or oversize loads.	1, 2

Table 1-1. Anticipated Approvals and Authorizations for DCPP Decommissioning

Agency	Permit / Approval / Consultation	Covered Activity	Phase(s)
California Highway Patrol (CHP)	CHP Escort	For transport requiring a CHP escort, depending on width of load and route taken.	1, 2
California Division of Occupational Safety and Health (Cal OSHA)	Cal-OSHA General Construction Activities Permit	Construction or demolition of structures greater than 36 feet in height, or to erect and place scaffolding, vertical shoring, or falsework intended to be more than 36-feet-high when completed	1, 2
Out of State Trans-portation Permits	As Applicable	Any transportation permits required for out of state transportation (waste disposal, etc.)	1, 2
Federal			
United States Environmental Protection Agency (USEPA)	Review of site remediation plans	Concurrence on license termination plan under specific circumstances defined in the NRC/USEPA.	1, 2
	Lead Notification	Submittal of notification of lead abatement activities.	1, 2
United States Army Corps of Engineers (USACE)	Section 404 Permit	Any activity that might result in a discharge of excavated or fill material into wetlands, streams, rivers, and other federal jurisdictional waters.	1
	Section 10 Rivers and Harbors Act Permit	Any activity that might result in an obstruction or alteration of any navigable water of the U.S. that is under USACE jurisdiction.	1
United States Fish and Wildlife Service (USFWS)	Endangered Species Act (ESA) Section 7 Consultation	Any plan or activity that is impacting federally listed plants, animals, or their habitat.	1, 2
National Marine Fisheries Service (NMFS)	Consultation – ESA, Marine Mammal Protection Act and Essential Fish Habitat Assessment	Activity would adversely affect critical habitat for listed anadromous fish species and essential fish habitat. Any plan that is impacting a federally listed plant or animal or their habitat or direct impacts to federally listed anadromous species. Essential Fish Habitat Assessment required for issuance of other federal authorizations. Potential for Incidental Take Authorization under the Marine Mammal Protection Act	1
Department of Interior – Bureau of Land Manage-ment (BLM)	Right-of-Way-Sundry	Right-of-way for construction and maintenance of breakwaters and construction of the coffer dam for removal of the Intake Structure under the Intake Structure Removal Alternative.	1, 2
U.S. Coast Guard	Notice to Mariners and Removal of Navigational Buoys	Transport of hazardous and non-hazardous mater-ials by water. Marine vessel movements associated with intake and discharge structure demolition activities.	1, 2
U.S. Department of Transportation	Hazardous Materials Safety Permit from Federal Motor Carrier Safety Administration	Transport of radioactive materials on highways.	1, 2
Union Pacific Railroad	Right-of-Entry	Projects involving temporary use of railroad property.	1, 2

Source: PG&E, 2021a (Table 1.8-1); PG&E, 2021b (PD-13); PSLHD, 2022.

1.4 Overview of the Environmental Review Process

1.4.1 Project Context with Respect to CEQA

The actions proposed by PG&E are subject to CEQA. Pursuant to State CEQA Guidelines section 15378, the County must review "the whole of [the] action that has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment." For the Proposed Project, this includes onshore and offshore areas, not just lands under the County's jurisdiction. With limited exceptions, CEQA requires the County, before approving a project over which it has discretionary authority, to consider the environmental consequences of the project. CEQA establishes procedural and substantive requirements that agencies must satisfy to meet CEQA's "basic purposes", which are (State CEQA Guidelines, §15002):

- Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities
- Identify the ways that environmental damage can be avoided or significantly reduced
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved

Other key requirements include carrying out specific noticing and distribution actions to maximize public involvement in the environmental review process. CEQA §21002 also states in part that it is the State's policy that public agencies:

> *"… should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required by this division are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects."*

County staff determined that the Proposed Project could result in significant environmental impacts and that an EIR is required to analyze the Proposed Project and potentially feasible alternatives. The purpose of an EIR is not to recommend either approval or denial of a project. The EIR is an informational document that assesses potential environmental effects of a project and identifies mitigation measures and project alternatives that could reduce or avoid significant environmental impacts (State CEQA Guidelines, §15121). Consistent with CEQA requirements, the County has engaged in a good faith, reasonable effort towards full public disclosure of the potential effects of the Proposed Project. Prior to any decision on whether to approve the Proposed Project under a DP/CDP and CUP, the County must certify that (State CEQA Guidelines, §15090):

- The Final EIR has been completed in compliance with CEQA.

- The Final EIR was presented to the County in a public hearing and the County reviewed and considered the information contained in the Final EIR prior to taking action on the Project.
- The Final EIR reflects the County's independent judgment and analysis.

The County must also adopt a plan to implement and monitor any identified mitigation measures. State CEQA Guidelines Section 15121, subdivision (b) further requires public agencies, before Project approval, to prepare written findings of fact for each significant environmental impact identified in an EIR. Possible findings are (State CEQA Guidelines, §15091):

- The project has been changed (including adoption of mitigation measures) to avoid or substantially reduce the significant environmental effect
- Changes to the project that would lessen the significant environmental effect are within another agency's jurisdiction and have been or should be required by that agency
- Specific economic, legal, social, technological, or other considerations make the mitigation measures or alternatives identified in the EIR infeasible

Under CEQA, if the County finds that the above considerations make identified mitigation measures or alternatives infeasible and that implementation of the Proposed Project would cause one or more significant effects to occur, the County can only approve the Proposed Project if it prepares a written statement that the DP/CDP and CUP and the Proposed Project's benefits (including economic, legal, social, technological, or other region- or statewide benefits) outweigh the unavoidable adverse environmental effects. This "statement of overriding considerations" must state specific reasons for the decision supported by substantial evidence in the record (State CEQA Guidelines, §15093).

1.4.2 Project Context with Respect to National Environmental Policy Act

As discussed in Section 1.3, Legal and Governmental Authority, the NRC prepared a Final GEIS Supplement (NUREG-0586) in 2002 that analyzed environmental impacts associated with the decommissioning of nuclear power plants throughout the country. NRC is currently gathering public input in its process to determine if the Proposed Project would require additional review under NEPA. If additional review is needed under NEPA, it would be conducted at a later date and likely use the information in this document and/or the supporting Project technical studies for this separate NEPA review.

1.4.3 Public Scoping (2021)

On October 28, 2021, pursuant to Public Resources Code section 21080.4 and State CEQA Guidelines Section 15082, subdivision (a), the County issued the Notice of Preparation (NOP) of a Draft EIR for the Proposed Project to responsible and trustee agencies and other interested parties. The NOP was mailed and posted in the New Times on November 25, 2021, and December 2, 2021, and the Santa Maria Times on November 30, 2021, and December 3, 2021. An informational video was sent to KSBY, KCOY, the SLO Tribune, American General Radio stations, and Dimes Media. The video was also posted to the County's Facebook page on November 6, 2021. Through the NOP, the County solicited written and verbal comments on the EIR's scope during a 40-day comment period and provided information on forthcoming virtual public scoping

meetings held on November 9, 2021 (10:00 a.m. and 6:00 p.m.), December 1, 2021 (10:00 a.m. and 6:00 p.m.), and December 4, 2021 (2:00 p.m.), to solicit verbal comments on the scope of the EIR. Meeting transcripts are provided in Appendix B. A total of 90 attendees were present at the virtual public scoping meetings, and 25 attendees provided verbal comments. Eleven agencies, 10 organizations, and 18 individuals submitted written comment letters or emails. Verbal questions were answered during the virtual public scoping meetings, and verbal and written scoping comments were noted and addressed in the EIR based on topic. Table 1-2 lists the NOP commenters.

Table 1-2. NOP Commenters – Agencies and Organizations

Local/Regional Agency/Entity	Avila Valley Advisory Council City of Pismo Beach City of San Luis Obispo City of Santa Maria Port San Luis Harbor District San Luis Obispo County Air Pollution Control District Santa Barbara County Air Pollution Control District Santa Barbara County Energy Minerals Compliance Division
State Agency	California Department of Fish and Wildlife California Department of Transportation California Public Utilities Commission US Fish and Wildlife Service
Tribal member	No comment letters/emails received during scoping
Non-Governmental Organization	Californians for Green Nuclear Energy Santa Lucia Sierra Club and Surfrider Foundation San Luis Obispo Mothers for Peace

1.4.4 Availability of the EIR

The Draft EIR is available for review on the County's Planning Department website (electronic), at County Department of Planning & Building, 976 Osos Street, Rm 200, San Luis Obispo (hard copy); and at local libraries in San Luis Obispo County (hard copy at San Luis Obispo Library and electronic (USB) at all other County libraries: Morro Bay, Los Osos, Cayucos, Santa Margarita, Arroyo Grande, Nipomo, Oceano, Shell Beach, Creston, Paso Robles, Atascadero, San Miguel, and Santa Margarita), Santa Maria and Guadalupe (hard copy and electronic [USB] at Santa Maria Public Library and Guadalupe Branch Library). The Notice of Availability was distributed to agencies, organizations, and residents regarding the availability of the EIR and the 60-day review period.

Notices were also placed in local newspapers and distributed to media outlets. The notices included information on the location and address of where a hard copy of the EIR could be reviewed and the project website for reviewing the document online.

To access the EIR on the County's website go to: **www.slocounty.ca.gov/DCPPDecom**.

1.5 Scope of the EIR

This EIR is intended to provide the County with information required to exercise its jurisdictional responsibilities with respect to the approval of the Proposed Project under a DP/CDP and CUP (to be considered at a noticed public hearing). Responsible agencies are expected to use the information in the certified EIR to exercise their jurisdictional or regulatory responsibilities related to the Proposed Project.

1.5.1 Potential Impacts and Summary of Alternatives Evaluated

This EIR identifies potential impacts of the Proposed Project on the environment and indicates if and how impacts can be avoided or reduced by mitigation measures or alternatives. As described in Section 6.3, *Effects Found Not to be Significant*, the following resource areas would not be impacted by the Proposed Project: Mineral Resources and Population and Housing.

The Proposed Project could have a significant impact on the following resource areas:

- Aesthetics
- Air Quality
- Biological Resources - Terrestrial
- Biological Resources - Marine
- Cultural Resources - Archeology and Built Environment
- Cultural Resources - Tribal Cultural Resources
- Energy
- Geology, Soils, and Coastal Processes
- Greenhouse Gas Emissions
- Hazardous and Radiological Materials
- Hydrology and Water Quality
- Land Use, Planning, and Agriculture
- Noise
- Public Services and Utilities
- Recreation and Public Access
- Transportation (Land and Marine)
- Wildfire

This EIR is prepared consistent with the California Supreme Court decision in *California Building Industry Association v. Bay Area Air Quality Management District* ((2015) 62 Cal. 4th 369, 386), in which the Court held that "CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents." With limited exceptions, the Court concluded that the impacts of existing environmental hazards only need to be analyzed if a proposed project risks exacerbating those hazards or conditions. Therefore, this EIR does not identify hazards presented by earthquakes, tsunamis, or other existing hazardous conditions as impacts of the Proposed Project, but rather describes these hazards as part of the environmental setting.

Pursuant to State CEQA Guidelines Section 15126.6, an EIR must describe and evaluate a range of reasonable alternatives that could feasibly attain most of a project's basic objectives and could avoid or substantially lessen any of the significant impacts of a project as proposed. The State CEQA Guidelines also state that the range of alternatives required to be evaluated in an EIR is governed by the "rule of reason" (§15126.6, subd. (f))—that is, an EIR needs to describe and evaluate only those alternatives necessary to permit a reasoned choice and to foster informed decision making and public participation. Table 1-3 identifies the potential alternatives considered but not carried forward for detailed analysis in this EIR and those alternatives to the Proposed Project that are analyzed in greater detail (see Section 5.0, *Alternatives Analysis (Phases 1 and 2)*).

Table 1-3. Potential Alternatives to the Proposed Project

Alternatives Eliminated from Consideration	Alternatives Evaluated in EIR
▪ Intake Structure Removal ▪ Breakwater Removal ▪ Full Removal of Onshore Subsurface Structures ▪ Partial Discharge Structure Removal ▪ Discharge Structure Leave-in-Place/Bulkhead ▪ Less Than 25 mrem Remediation Threshold ▪ Santa Maria Valley Railyard – Santa Maria (SMVR-SM) Site	▪ SAFSTOR Alternative ▪ CSLC No Project Alternative ▪ Minimum Demolition Alternative ▪ Firing Range Minimum Earthwork Alternative ▪ Firing Range Partial Backfill Alternative ▪ No Waste by Rail Alternative ▪ Delayed Decommissioning Alternative ▪ CSLC Full Removal Alternative

1.5.2 Cumulative Impact Analysis

An EIR must discuss the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable" (State CEQA Guidelines, §15130). A cumulative impact is an impact that is created through a combination of a project being analyzed in the EIR and other projects in the area causing related impacts. Section 3.3, Cumulative Projects, defines the applicable geographic scope of the cumulative analysis ("Cumulative Projects Study Area") and lists future planned and approved projects to be included in the cumulative environment.

1.5.3 Potential Site Reuse Concepts (Phase 3)

The EIR includes a discussion of potential site reuse concepts that could be developed on the DCPP site after decommissioning. Although not a part of PG&E's Proposed Project, potential future site reuse concepts are included for discussion purposes and to provide the public with information on the type of projects that could be developed at the DCPP site. Potential future site reuse concepts are discussed in Section 8, *Potential Site Reuse Concepts (Phase 3)*. The eight reuse concepts include a clean-tech innovation park, desalination plant, recreation uses, energy storage system, energy research, off-shore wind area, institutional use, and cultural and historical preservation.

1.6 Organization of the EIR

The EIR is presented in nine sections.

- Section 1.0 – Introduction provides background on the Proposed Project and the CEQA process.
- Section 2.0 – Project Description (Phases 1 and 2) describes the Project setting, history of the Project sites, Proposed Project elements and activities, the decommissioning process, and decommissioning schedule.
- Section 3.0 – Assessment Methodology (Phases 1 and 2) describes the impact analyses methodology and identifies the EIR's approach to the cumulative impact analysis.
- Section 4.0 – Environmental Setting and Impact Analysis (Phases 1 and 2) describes existing environmental conditions, Proposed Project-specific impacts, mitigation measures, and residual effects for multiple environmental issue areas, and evaluates cumulative impacts for each issue area with identified impacts.

- Section 5.0 – Alternatives Analysis (Phases 1 and 2) describes the alternatives screening methodology, alternatives rejected from full consideration, alternatives carried forward for full analysis, and then analyzes the impacts of each alternative carried forward.
- Section 6.0 – Other Required CEQA Sections (Phases 1 and 2) addresses other required CEQA elements, including significant and irreversible environmental effects, significant irreversible changes caused by the Project, growth-inducing impacts of the Proposed Project, and known areas of controversy and unresolved issues.
- Section 7.0 – Other Considerations (Phases 1 and 2) presents information relevant to other responsible agencies such as the CCC and CSLC, including climate change and sea-level rise considerations, commercial fishing, environmental justice, and a discussion of State Tide and Submerged Lands possessing significant environmental values.
- Section 8.0 – Potential Site Reuse Concepts (Phase 3) describes eight potential future DCPP site reuse concepts that could be developed after DCPP decommissioning. This section is for illustrative purposes only.
- Section 9.0 – Report Preparation Team and References provides a list of the personnel involved in preparing the EIR and the reference materials used.

The appendices to this EIR are summarized below.

- Appendix A contains the Draft EIR distribution list.
- Appendix B includes public scoping documents, such as a copy of the NOP and comment letters received in response to the NOP.
- Appendix C contains an abridged list of major federal and state laws, regulations, and policies potentially applicable to the Proposed Project organized by issue area.
- Appendix D contains the criteria pollutant and GHG emission calculations.
- Appendix E contains supplemental terrestrial biological resources information, including the Aquatic Resources Delineation conducted on the DCPP site.
- Appendix F contains the Historic Resources Evaluation Report that evaluates the buildings and structures on the DCPP site that are 50 years or older.
- Appendix G contains several appendices related to radiological hazards and environmental review of nuclear power facilities.
  - Appendix G1: Baseline Conditions for the Management, Storage, Transportation, and Disposal of Spent Nuclear Fuel and High-Level Waste at Diablo Canyon Power Plant provides background information on management, storage, transportation, and disposal of SNF and HLW.
  - Appendix G2: Radioactive Materials Transportation Experience and Risk Assessments provides background information on transportation of SNF, HLW, and radioactive materials generally.

- Appendix G3: US Nuclear Regulatory Commission Environmental Impact Evaluation provides background information on federal environmental review of the decommissioning of nuclear facilities.
- Appendix G4: Radiation Basics provides background information on basic radiation concepts and human health.
- Appendix G5: US DOT Radioactive Material Regulations Review provides DOT hazardous materials regulations for packaging and shipment of radioactive material.

  The topics addressed in Appendix G are not directly related to analysis of the Proposed Project and are provided as background information to inform the public given the highly technical and high-profile nature of nuclear power plant decommissioning. As discussed in Section 1.3, *Legal and Governmental Authority*, the NRC has exclusive jurisdiction over the radiological aspects of decommissioning. In addition, as discussed in Section 1.2.2, *ISFSI Approval and Cask Design*, operation and maintenance of the ISFSI and storage and transportation of SNF are already approved and are not part of the Proposed Project.

- Appendix H: Noise and Vibration Calculations presents the background (input) for the estimated noise and vibration levels used in the noise and vibration analysis for the railyard sites.
- Appendix I: Vehicle Miles Traveled (VMT) Calculations provides the results of the VMT calculations conducted for the Transportation analysis.

2. Project Description (Phases 1 and 2)

Pacific Gas and Electric Company (PG&E or Applicant) has submitted a Development Plan (DP)/ Coastal Development Permit (CDP) (DP/CDP) and Conditional Use Permit (CUP) Application to the County of San Luis Obispo Department of Planning and Building for decommissioning the Diablo Canyon Power Plant (DCPP or plant). This section describes the DCPP Decommissioning Project (Proposed Project or Project) as proposed by PG&E.

2.1 Project Summary

PG&E proposes to decommission the DCPP, which involves the decommissioning (withdraw from service and make inoperative) and dismantlement (break apart, decontaminate, and remove) (together, referred to as D&D) of much of the existing plant. The Proposed Project is in an unincorporated area of San Luis Obispo County. Approximately two-thirds of the DCPP site is within the coastal zone and approximately one-third is outside the coastal zone (see Figure 1-3).

The California Coastal Act (CCA) is the principal planning and regulatory program for the coastal zone of California. Section 23.01.031 of the County's Coastal Zone Land Use Ordinance (CZLUO) requires a CDP for development projects, including decommissioning projects, in accordance with the CCA and the above-referenced section of the CZLUO. In addition, Section 23.02.034 of the CZLUO requires a DP to enable public review of significant land use proposals and to ensure consistency with local ordinance and policy. The area of the DCPP site in the coastal zone is located within the California Coastal Commission (CCC) appeal jurisdiction, meaning that County decisions on the Project may be appealed to the CCC. Furthermore, Section 22.62.060 of the County's Inland Land Use Ordinance requires a CUP for significant land use proposals outside the coastal zone to enable public review and ensure local ordinance and policy consistency.

Part of the DCPP site also is within the original jurisdiction of the CCC and jurisdiction of the California State Lands Commission (CSLC), specifically DCPP features in tidelands and submerged lands, and a CDP and new lease or lease amendment are required from these agencies, respectively, for plant decommissioning activities within these agencies' jurisdictions. Furthermore, the US Nuclear Regulatory Commission (NRC) has exclusive jurisdiction and regulatory authority over the radiological aspects of decommissioning nuclear power plants in the United States.

The DCPP is a two-unit (i.e., two reactor units) nuclear-powered electrical generating station that began commercial operation in 1985 for Unit 1 and 1986 for Unit 2 and is the last nuclear power plant still operating in California. The two reactors are licensed by the NRC to operate until November 2, 2024 (Unit 1) and August 26, 2025 (Unit 2). Between 2009 and 2016, PG&E pursued efforts to renew these licenses, which would have allowed for the continued operation of DCPP until 2044 (Unit 1) and 2045 (Unit 2). In 2016, PG&E decided to forego license renewal efforts and announced plans to close DCPP at the expiration of its current 10 Code of Federal Regulations (CFR) Part 50 facility operating licenses (referred to herein as NRC Part 50 facility operating licenses). This decision was confirmed by the California Public Utilities Commission (CPUC) in 2018. Upon final shutdown of the reactor units and assuming all permit conditions are acceptable, PG&E intends to transition DCPP immediately from an operating status into a decommissioning status, meaning the facility would be shut down and the process of dismantling, decontaminating, and removing it would begin.

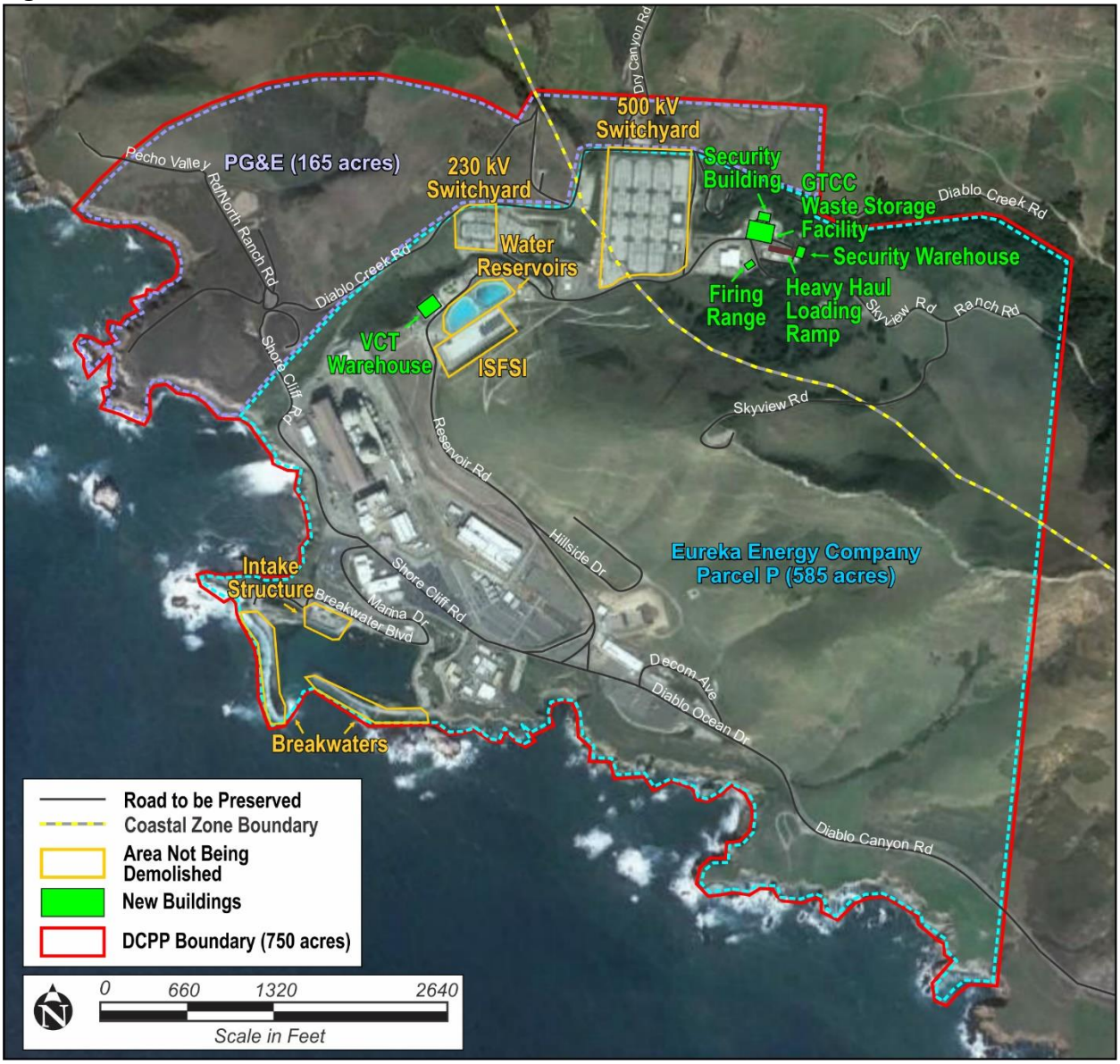
The Proposed Project involves three sites: (1) the DCPP site, (2) the Pismo Beach Railyard (PBR), and (3) a Santa Maria Valley Railyard (SMVR) facility site known as Betteravia Industrial Park (SMVR-SB) (see Figure 2-1).

Figure 2-1. Project Location Map

Source: Google Earth Pro, 2021a.

The DCPP site is on the coast of San Luis Obispo County, California, approximately 7 miles northwest of Avila Beach. The DCPP facility site comprises a 750-acre NRC-licensed site denoted in Figure 2-2 as the red boundary. It contains the 585-acre Parcel P owned by Eureka Energy Company (Eureka), a wholly owned subsidiary of PG&E, and the 165-acre area owned by PG&E. The 750-acre licensed site is surrounded by land owned by either PG&E or Eureka.

Figure 2-2. DCPP Site

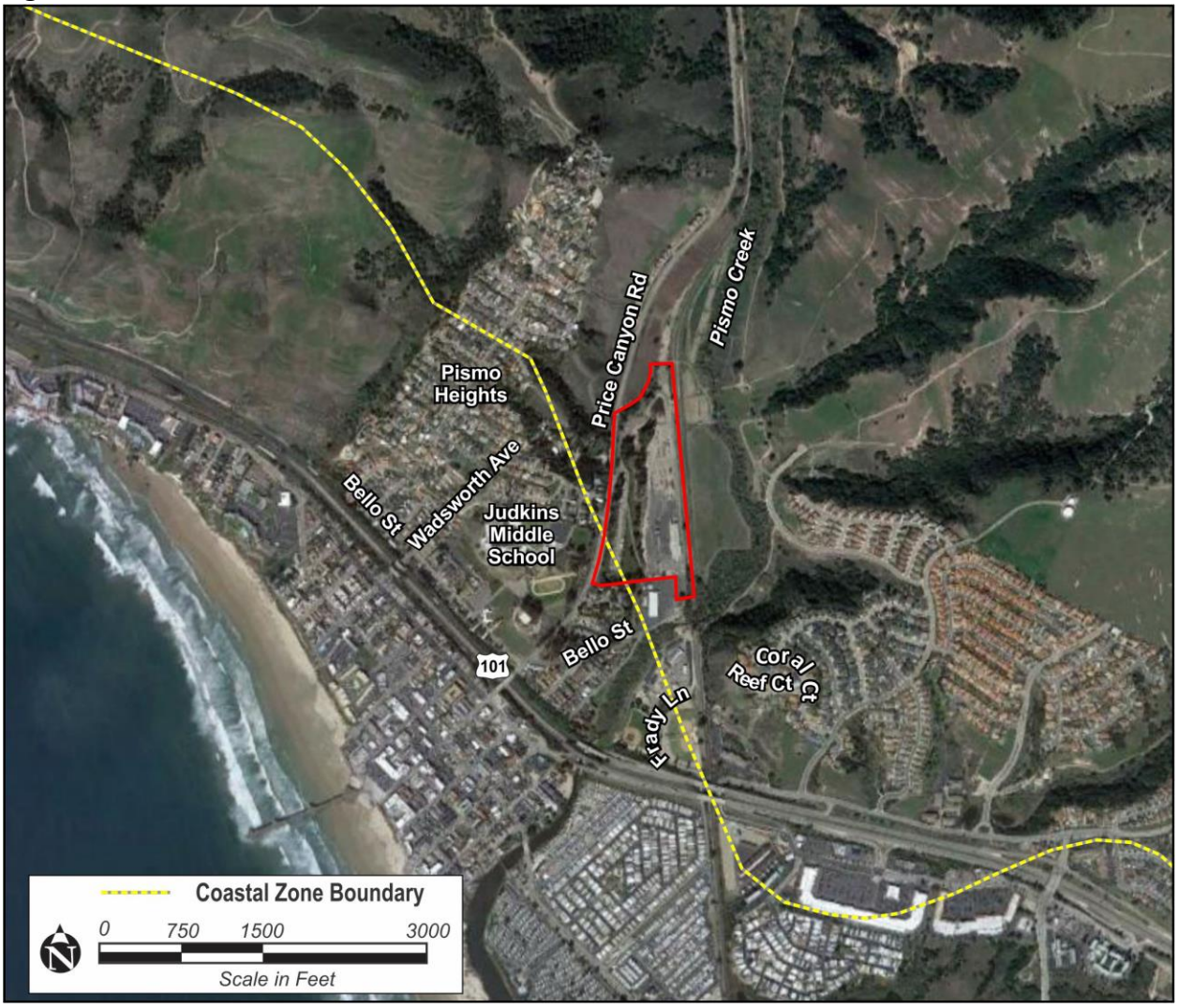


Source: Google Earth Pro, 2021b; ERM, 2023b.

The rail sites would be used to transfer decommissioning waste from trucks to rail cars, where the waste would then be transported by rail to out-of-state disposal facilities (Clive, Utah and/or Andrews, Texas – see Section 2.3.19).

The PBR site was once used by PG&E for equipment and material storage and transportation needs in support of DCPP operations. At present, the site is being used as an equipment staging area and vehicle maintenance facility in support of PG&E's Transmission and Distribution operations. The site is located off Price Canyon Road in the City of Pismo Beach in San Luis Obispo County, approximately 13 miles southeast of the DCPP site (see Figures 2-1 and 2-3). This site would be used as a back-up or contingency site for the transfer of only non-radioactive and non-hazardous decommissioning waste.

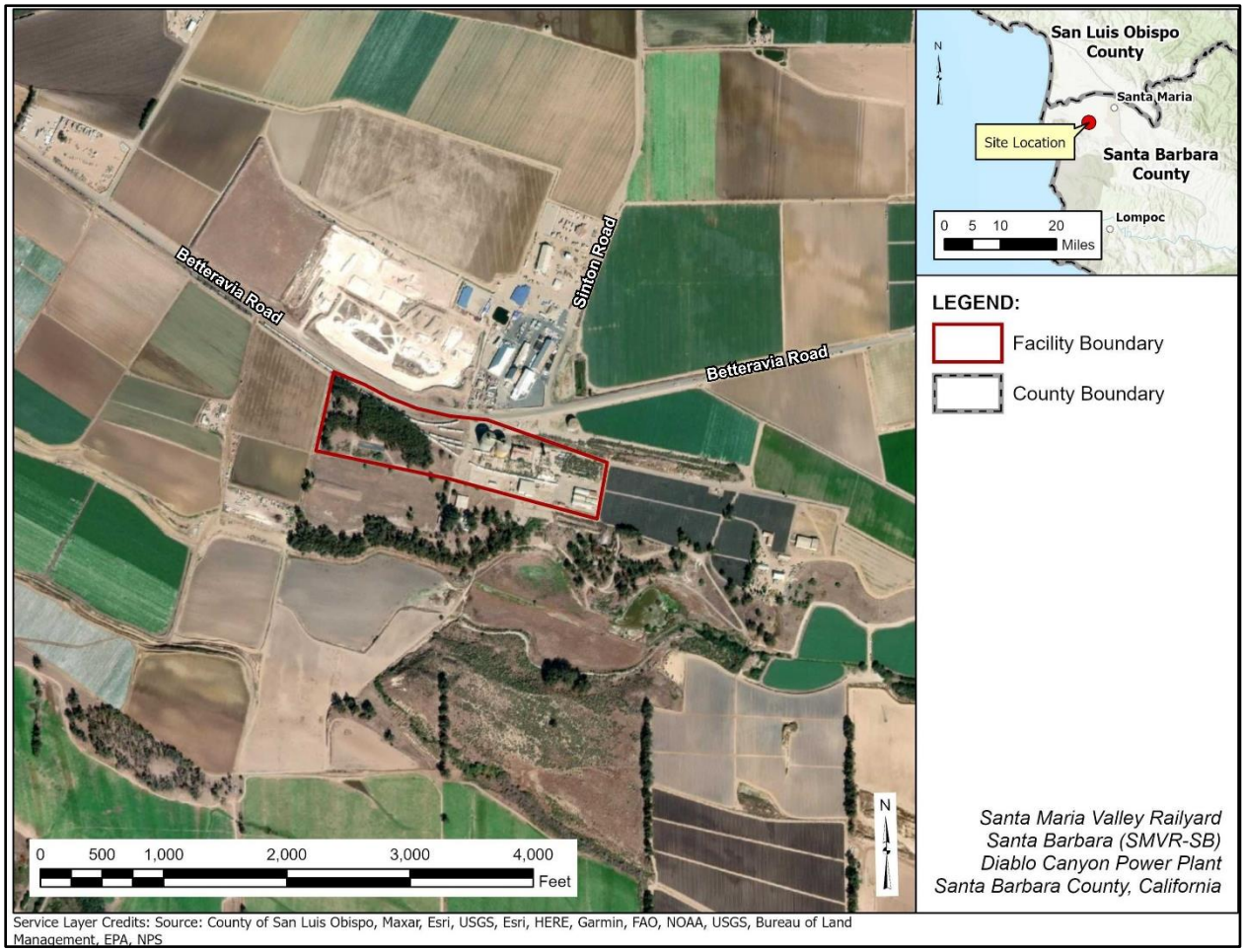
Figure 2-3. PBR Site



Source: PG&E, 2021a; Google Earth Pro, 2021c.

Decommissioning waste would be transported via truck from DCPP to the railyard at Betteravia Industrial Park operated by SMVR (SMVR-SB), located at 2820 W. Betteravia Road in the County of Santa Barbara approximately 30 miles southeast of the DCPP site (see Figures 2-1 and 2-4).

Figure 2-4. SMVR-SB (Betteravia Industrial Park) Site



Source: PG&E, 2021a – Figure 2.2.2-3.

Facility decommissioning would occur in two phases:

- Phase 1 (2024 through 2031): Pre-planning and Decommissioning Project Activities, and
- Phase 2 (2032 through 2039): Completion of Soil Remediation, Final Status Surveys, and Final Site Restoration.

Table 2-1 provides a summary of the Project activities by phase. Each of these activities are discussed in more detail in Section 2.3 for Phase 1 and Section 2.4 for Phase 2.

Table 2-1. Decommissioning Project Activities Summary

Phase 1: Pre-Planning and Decommissioning Project Activities (2024-2031)
▪ **Cold and Dark Modifications.** Install electrical infrastructure to supply power for decommissioning
▪ **Site Security Modifications.** Change security infrastructure to support decommissioning
▪ **Site Infrastructure Modifications.** Change site facilities, civil features, utilities, and equipment
▪ **Railyard Modifications.** Modify (under separate permits) and use railyard(s) for waste shipments (Pismo Beach – contingency site – modifications by PG&E, Santa Barbara County – modifications by SMVR)
▪ **System and Area Closure.** Remove select systems, structures, and components from structures
▪ **Intake Structure Modification.** Modify Intake Structure to load barges for bulk waste transport

Table 2-1. Decommissioning Project Activities Summary

- **Auxiliary Saltwater System Cooling of Spent Fuel Pool (SFP).** Cool SFP via the auxiliary saltwater system (current method)
- **Site Characterization Study.** Identify radioactive and non-radioactive contamination at DCPP
- **Decontamination.** Remove, remediate, and/or abate hazardous materials in structures
- **Building Demolition.** Remove on-site structures
- **Stormwater Management.** Implement compliance measures for stormwater control
- **Waste Transportation.** Transport radiological and non-radiological waste materials off site
- **Reactor Pressure Vessel and Internals Removal and Disposal.** Remove reactor pressure vessels and internal components and transport off site for disposal
- **Large Component Removal.** Remove large components prior to building demolition
- **Utilities, Remaining Structures, Roads, and Parking Area Demolition.** Remove facilities not needed to support decommissioning or final site use
- **Remove Power Plant 230 kilovolt (kV) and 500 kV Infrastructure.** Remove 230 kV and 500 kV lines, poles, and towers from the Power Block to the switchyards (switchyards are to be retained)
- **Discharge Structure Removal and Restoration.** Remove discharge concrete structure and restore area to natural conditions
- **Construct Waste Storage Facilities**
  - Construct a GTCC Waste Storage Facility for storing radioactive materials regulated by Title 10 of the Code of Federal Regulations (10 CFR) Part 72 (Part 72)[1]
  - Construct a Non-Radioactive Waste Storage Facility for storing general demolition debris including hazardous, non-hazardous, and universal wastes (i.e., hazardous wastes more widely produced such as batteries, mercury-containing equipment, lamps, aerosol cans, and pesticides)
- **SNF and GTCC Waste Transfer to ISFSI and new GTCC Storage Facility.** After a cooling and decay period (i.e., time to reduce radioactivity), SNF and GTCC waste would be moved to the ISFSI and new GTCC Waste Storage Facility, respectively, for storage (SNF will be transferred to dry cask storage within approximately 4 years after each reactor shutdown)
- **Water Management.** Produce fresh water and cooling water, and manage wastewater
- **Soil Remediation.** Remediate (i.e., clean up and restore from environmental damage) radiological and non-radiological impacted (i.e., contaminated) soils
- **Initial Site Restoration.** Backfill, grade, and landscape to restore excavated and disturbed features at DCPP to natural conditions
- License Termination Plan (**LTP**)**.** Prepare and submit an LTP to the NRC
- **Final Status Surveys.** Complete surveys to ensure the DCPP site meets the radioactivity release criteria specified in the NRC-approved LTP.
- **Firing Range.** Remove the existing Firing Range and construct a new indoor Firing Range
- **Retain Breakwaters.** Release Breakwaters from Part 50 facility operating license for reuse by others
- **Retain Intake Structure.** Release Intake Structure from Part 50 facility operating license for reuse by others

Phase 2 – Completion of Soil Remediation, Final Status Surveys, and Final Site Restoration (2032-2039)

- **Complete Waste Transportation**. Complete transport of remaining radiological and non-radiological waste materials off site
- **Complete Soil Remediation.** Complete remediation of radiological and non-radiological-impacted soils
- **Complete Final Status Surveys.** Complete surveys to ensure the site meets the release criteria
- **Intake Structure Closure**. Seal openings of Intake Structure with concrete bulkheads and clear top
- **NRC Part 50 License Termination.** Terminate DCPP's NRC Part 50 facility operating licenses
- **Utilities, Remaining Structures, Roads, and Parking Area Demolition.** Remove facilities not needed to support the retained DCPP facilities

Table 2-1. Decommissioning Project Activities Summary

- **Final Site Restoration (FSR).** Continue to backfill, grade, and landscape to restore excavated and disturbed features, including the former Firing Range, at DCPP to natural conditions
- **Long-Term Stormwater Management.** Install post-construction stormwater controls
- **Post-Final Site Restoration Monitoring.** Monitor (up to 5 years) efforts to restore the DCPP site and ensure restoration criteria are met
- **Construct Blufftop Road**. Construct new blufftop road segment to connect Shore Cliff Road with North Ranch Road/Pecho Valley Road

Source: PG&E, 2021a – Table 2.1-1.

Acronyms: CFR = Code of Federal Regulations, DCPP = Diablo Canyon Power Plant, FSR = Final Site Restoration, GTCC = Greater Than Class C, ISFSI = Independent Spent Fuel Storage Installation, kV = kilovolt, LTP = License Termination Plan, NRC = Nuclear Regulatory Commission, SFP = Spent Fuel Pool, SNF = Spent Nuclear Fuel

[1] GTCC wastes are defined as those wastes with concentrations of radionuclides which exceed the limits established for Class C Low-Level Radioactive Waste. For the Project, the GTCC waste inventory includes GTCC waste that has been generated throughout normal operations of the DCPP units and the GTCC waste that would be generated during RPV internals segmentation.

Facilities remaining following completion of Phases 1 and 2 include:

- primary and secondary access roads
- internal roads, including the existing road over Diablo Creek
- 230 and 500 kV switchyards
- Independent Spent Fuel Storage Installation (ISFSI)
- Water Reservoirs
- Vertical Cask Transporter (VCT) Warehouse
- New Security Building, Firing Range, and GTCC Waste Storage Facility (built in Phase 1).

In addition, PG&E proposes to retain the existing East and West Breakwaters and Intake Structure for potential future use by others (Intake Structure would be closed/sealed as part of the Proposed Project – see Section 2.4.6, *Intake Structure Closure*). This proposal is based on CPUC Decision 21-09-003, directing PG&E to evaluate retaining the East and West Breakwaters, subject to regulatory approvals (CPUC, 2021). A Joint Settlement agreement estimated that PG&E could reduce the cost of decommissioning by $400 million if both breakwaters were maintained for repurposing, and $200 million related to other general repurposing of existing facilities, such as the retainment of the Intake Structure for future use (CPUC, 2021) (See Section 2.4.6 and Section 2.7 below for more details).

Some structures or portions of the structures remaining on site following decommissioning would continue to be managed by PG&E within a designated "Owner Controlled Area" or OCA. An OCA is defined as the land area owned and controlled by PG&E or Eureka (licensee) where access can be limited by the licensee for any reason (PG&E, 2021e – PD-4). Currently, the 750-acre site boundary consisting of the protected area (PA), and radiologically controlled area (RCA) are contained within the existing OCA, which comprises 12,000 acres (see Figure 2-6). PG&E intends to reduce the size of the existing OCA to encompass the remaining facilities once decommissioning of the DCPP has been completed (see Figure 2-17). Activities within the revised OCA would be limited to the area surrounding the ISFSI and GTCC Waste Storage Facility operations until an off-site interim storage facility or permanent repository is available to accept transfer of spent nuclear fuel (SNF) and GTCC waste. Identification of an off-site repository for

long-term storage of SNF and GTCC waste is a concern both for DCPP and for nuclear power facilities across the nation and awaits resolution by the federal government.

PG&E would establish a blufftop road segment at the end of DCPP decommissioning to connect Shore Cliff Road with North Ranch Road/Pecho Valley Road, utilizing the Diablo Creek Bridge (see Figure 2-36). Additionally, future actions would require additional permitting for third-party reuse of the Marina (see Section 2.7, *Future Actions – Retain Marina for Permitting and Reuse by Third Party*).

2.2 Project Setting

The Project would take place at up to two locations within San Luis Obispo County and one location within Santa Barbara County (see Figure 2-1). The primary location is the DCPP site, which occupies a 750-acre high security zone (including the 585-acre Parcel P) within the existing OCA that spans approximately 12,000 acres of coastline property (owned by PG&E and Eureka) in central San Luis Obispo County (see Figure 2-2). DCPP is located within the Irish Hills and coastline approximately 7 miles northwest of Avila Beach, 12 miles west-southwest of the City of San Luis Obispo, and directly southeast of the southern border of Montaña de Oro State Park. Project activities may also take place at the PG&E-owned PBR within the City of Pismo Beach, San Luis Obispo County (contingency site). In addition, Project activities would take place at the SMVR-SB site (see Figure 2-4) within Santa Barbara County.

2.2.1 Local and Regional Setting

2.2.1.1 Diablo Canyon Power Plant

The coastal border of the DCPP site is defined by rocky bluffs with gently to moderately sloping terraces ranging from 70 to 100 feet above sea level. Most of the structures comprising the DCPP complex were constructed several hundred feet from the shoreline on a flat terrace. The reactors and associated primary systems equipment for Units 1 and 2 are housed in separate, but adjacent, containment structures on the main terrace at 85 feet above sea level (see Figure 2-2).

Montaña de Oro State Park is located adjacent to the North Ranch (land north of the DCPP site) of the PG&E property – the North Ranch contains the Point Buchon Trail. Montaña de Oro State Park includes campsites and various hiking trails and other recreational opportunities.

The nearest residential communities are in Avila Beach and Los Osos. Avila Beach is located near the main DCPP Access Gate, which is approximately 7 miles southeast of the DCPP site. Los Osos is situated adjacent to Montaña de Oro State Park and is located 8 miles north of the DCPP site. Other cities and unincorporated residential areas exist along the coast and inland at distances of more than 8 miles from the DCPP site. The closest public facilities to the DCPP site are the Port San Luis Harbor District facilities west of Avila Beach, which are located approximately 5.5 miles southeast of the DCPP site.

There are several existing roads in the DCPP area, although none are open to the public. The primary road is Diablo Canyon Road, also informally known as the “main access road,” is a paved two-lane, approximately 7-mile road running from the Access Gate at Port San Luis to the DCPP. This is the main access road into the property and is primarily used by DCPP employees. Just

north of the Access Gate is Lighthouse Road, which is a paved road that leads to the Point San Luis Lighthouse. The northern portion of the Diablo Canyon lands, between Montaña de Oro State Park and the DCPP facility, include several unpaved and partially paved (North Ranch Road/ Pecho Valley Road) roads. North Ranch Road/Pecho Valley Road serves as a County Fire Department access route, providing access to the DCPP from the north. It is also used as an alternative route for DCPP personnel if the main plant road is out of service, and for ranching/land management activities for the North Ranch. The access route could also be used as an emergency evacuation route for Avila and Port San Luis, if Avila Beach Drive and/or San Luis Bay Drive were compromised. See Figure 2-1 for a regional map showing the location of DCPP.

2.2.1.2 Pismo Beach Railyard

PBR is an approximately 25.5-acre material and equipment storage facility owned by PG&E, located at 800 Price Canyon Road within the City of Pismo Beach. The facility is located approximately 0.3 miles from US Route 101 (US-101) within Price Canyon and adjacent to Pismo Creek (see Figure 2-3). The site geology consists of sandy loams and clay loams that are somewhat poorly drained and alluvial in origin. The soil is moderately permeable with slight to moderate erosion hazards. The majority of the PBR is located on relatively level topography with elevations ranging from 30 to 100 feet above mean sea level (MSL). Some portions in the western area of the site along Price Canyon Road are steeper and drain toward the east. The PBR site slopes west to east and drains into a man-made canal along the eastern boundary of the site, ultimately draining into the Pismo Creek channel and finally to the Pacific Ocean. Most of the site is located within a 100-year flood plain and is adjacent to the floodway of the Pismo Creek channel.

The facility is surrounded by a mix of uses including open space and residences to the north, a Union Pacific Railroad (UPRR) line and open space to the east, a wastewater treatment plant owned by the City of Pismo Beach and a church to the south, as well as residences and Judkins Middle School to the west. Open space areas in the site vicinity consist of non-native grasslands, roadside ruderal areas, riparian areas, and coast live oak woodland.

2.2.1.3 Santa Maria Valley Railyard

The SMVR-SB site, also known as Betteravia Industrial Park, is located at 2820 W. Betteravia Road, approximately 1.6 miles west of the City of Santa Maria and approximately 3.2 miles southeast of the City of Guadalupe in Santa Barbara County, California (see Figure 2-4). The site is approximately 28.4 acres, bordered to the north by Betteravia Road and agricultural fields, on the west and east by agricultural fields, and on the south by agricultural fields and ruderal lands with a building and parking lot. Elevations on site range from 152 to 174 feet (47 to 52 meters) above MSL.

The eastern portion of the site is developed, consisting of several buildings, loading platforms, two large silos, and a furnace stack. The western portion of the site consists primarily of a eucalyptus grove and a railroad track with a few spur lines. Adjacent land uses include industrial businesses, agricultural fields, and undeveloped private lands. Guadalupe Lake is located approximately 350 feet south of the SMVR-SB site. Based on historical imagery PG&E collected from Google Earth (1994-2019), Guadalupe Lake appears to be an ephemeral feature that ponds dur-

ing some years and outlets into an unnamed drainage that flows into Orcutt Creek to the west which flows to Santa Maria River and the Pacific Ocean.

2.2.2 Site History

2.2.2.1 Diablo Canyon Power Plant

In 1966, PG&E leased property (and later purchased the property under its subsidiary Eureka) from the Marre family for a nuclear power plant and a transmission corridor (i.e., land suitable for the installation of electric transmission lines). Of the current 750-acre DCPP facility site (see Figure 2-2), approximately 165 acres are owned by PG&E, which are located north of Diablo Creek. The remaining 585 acres (Parcel P) of the DCPP site, adjacent to and south of Diablo Creek, are owned by Eureka and leased to PG&E. Coastal properties located south of Diablo Creek reaching inland approximately 0.5 miles have been owned by Eureka since 1995. All coastal properties (approximately 4,500 acres) located north of Diablo Creek, extending north to the southerly boundary of Montaña de Oro State Park and reaching inland approximately 0.5 miles were purchased by PG&E in 1988. The two portions of the property, referred to as the North Ranch and South Ranch, are encumbered by two grazing licenses. PG&E owns additional property for the purposes of conveying electrical power via transmission corridors. See Figure 2-5 for a depiction of PG&E- and Eureka-owned lands.

In 1983, the CCC approved CDP No. 4-82-593 for construction of PG&E's Simulator and Training Buildings; this approval included a special condition to construct and operate the Pecho Coast Trail, which has been operational since 1993 (see Section 2.2.3.3, *Existing Mitigations and Encumbrances on the DCPP Property*). The County's LCP was adopted in 1988.

On November 5, 2001, PG&E applied for a DP/CDP with the County to construct and operate in perpetuity an ISFSI at the DCPP site. This permit, DP/CDP D010153D, for the ISFSI was approved by the County in 2004. The County permit was then appealed to the CCC, which subsequently approved CDP No. A-3-SLO-04-035 for the construction and operation in perpetuity of the ISFSI on December 8, 2004. Special condition 3(d) required PG&E to provide a deed restriction for the Point Buchon Trail to ensure its legal protection in perpetuity. The location of the deed restricted trail is identified in Figure 2-5. Pursuant to the deed restriction, public pedestrian access must be provided during daylight hours to the accessways identified in the plan.

Figure 2-5. Land Ownership

Source: PG&E, 2023c.

In 2006, the County approved DP/CDPDRC2004-00165 and CUP DRC2004-00166 for the Steam Generator Replacement Project (SGRP). The County CDP was then appealed to the CCC, which then approved CDP No. E-06-011 and A-3-SLO-06-017 for the SGRP. Special Condition 3(c)

required PG&E to prohibit development on 1,200 acres of a coastal bluff in the vicinity of Point San Luis by means of a deed restriction. The location of the deed restriction area is identified in Figure 2-5. The future use of the Deed Restriction Area would be limited primarily to open space and agriculture, with perpetual preservation of human remains, funerary objects, sacred objects and items of cultural patrimony originating in San Luis Obispo County. These resources may require relocation and reburial for protection at the direction of the recognized descendants or as otherwise designated by the Native American Heritage Commission and approved by the Commission or its Executive Director.

2.2.2.2 Pismo Beach Railyard

The PBR supports PG&E's operations and has been used for various equipment and material storage and transport needs in support of DCPP. The site contains a rail spur off a UPRR line, which has been used to transport large components, waste, and other various pieces of equipment during the construction and operation of DCPP. The facility was once used as a satellite facility for DCPP, operating for a time as a security inspection area for goods and equipment bound for the plant site. The PBR does not currently transport any materials by rail; the existing rail spur has not been used for at least 10 years (PG&E, 2021d – LAND-2).

At present, the site is being used as an equipment staging area and vehicle maintenance facility in support of PG&E's Transmission and Distribution operations. Additionally, the single building present on site is occupied by PG&E staff within the Transmission and Distribution departments, as well as contractors responsible for PG&E's Vegetation Management program (see Figure 2-3).

2.2.2.3 Santa Maria Valley Railyard

Prior to use by the SMVR as a railyard, the SMVR-SB site (i.e., Betteravia Industrial Park) was a sugar factory operated by the Union Sugar Company. The site still contains structures previously used for the sugar factory, including several buildings, loading platforms, two large food-grade storage silos, and a furnace stack. The site also contains on ground and covered storage and warehouse space. The western portion of the site consists primarily of a eucalyptus grove and a railroad track with a few spur lines. The SMVR-SB site is served by the SMVR and can be accessed by truck from Betteravia Road. This site does not appear to be actively used for transporting materials off site by rail, but rather currently serves as storage for rail cars (PG&E, 2021d – LAND-2). The SMVR-SB site is generally surrounded by agricultural and industrial uses (see Figure 2-4).

2.2.3 Existing Project Setting

2.2.3.1 Power Generation

In 1967 and 1969, the CPUC issued PG&E Certificates of Public Convenience and Necessity for construction of DCPP Units 1 and 2, respectively. Construction of Unit 1 began in 1968 and construction of Unit 2 began in 1970. In 1973, the US Atomic Energy Commission (the precursor to the NRC) conducted an environmental review under the National Environmental Policy Act for the construction of DCPP.

Due to construction, design, and regulatory issues, Units 1 and 2 were not completed until the 1980s. The NRC issued the current full power operating licenses on November 2, 1984, and August 26, 1985, for Unit 1 and Unit 2, respectively. Unit 1 began commercial operation in May

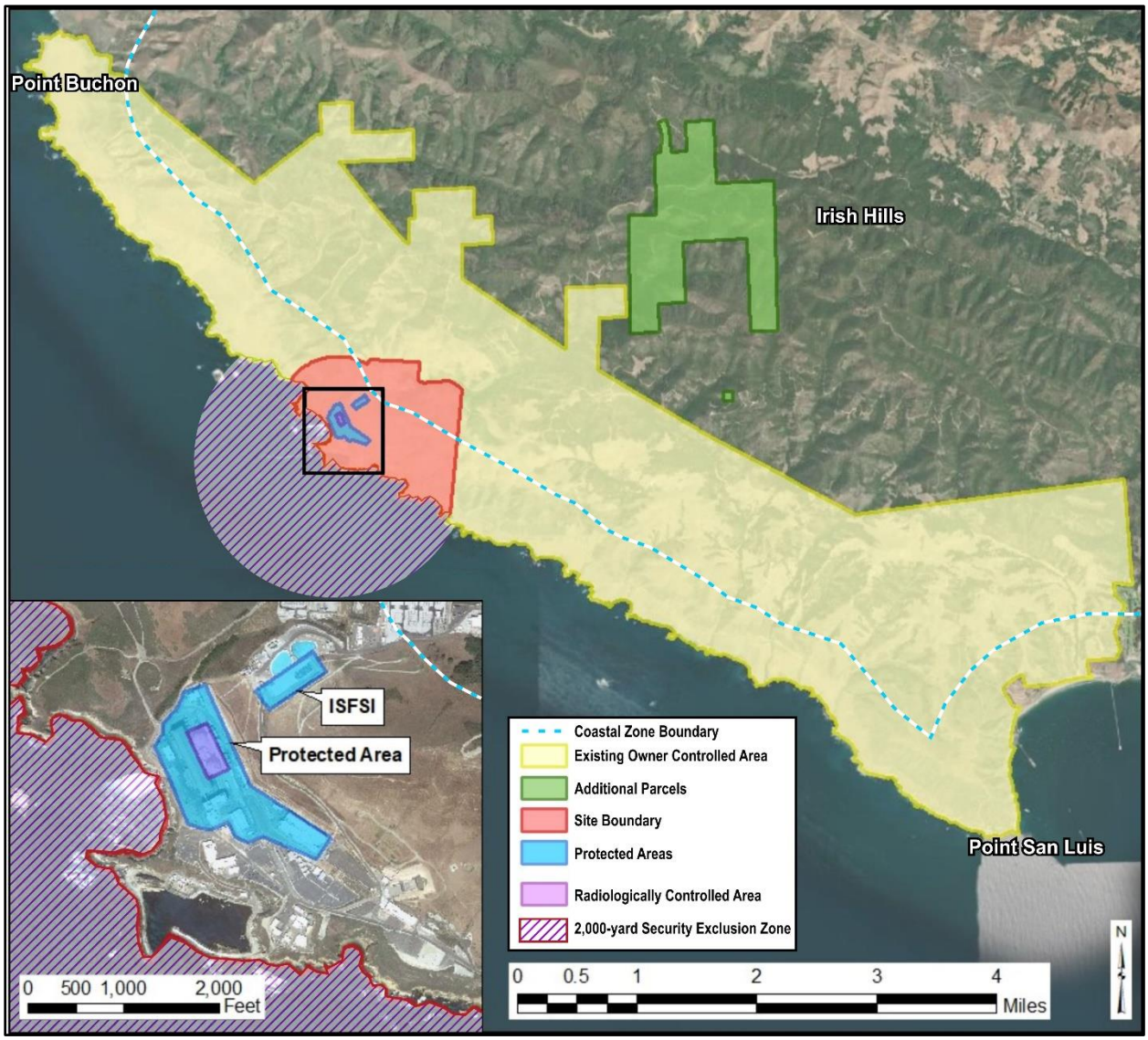
1985 and Unit 2 began commercial operation in March 1986. The two nuclear reactors (Units 1 and 2) are housed in separate, but adjacent, containment buildings. Each unit has a pressurized water reactor coupled with steam generators (SGs), feed water systems, and cooling water systems. The two reactors share some common equipment, including a shared fuel handling building, a radioactive waste storage building, an auxiliary building containing emergency safety systems and other support systems, a turbine building containing turbines and generators, high-voltage step-down transformers, and switching equipment. Each unit is refueled approximately once every 18 months.

DCPP operates 24 hours a day year-round, and currently employs 1,157 workers (as of the 2021 CDP Application), but generally employs up to approximately 1,400 workers under typical operating conditions. There is an augmented contractor force of over 100 personnel on site. Additionally, the number of DCPP workers fluctuates depending on plant requirements such as scheduled fuel replacement (i.e., refueling) outages, routine maintenance, and other special projects. Over 1,000 support personnel are routinely used during a refueling outage.

DCPP Units 1 and 2 are located within a security zone or PA along with several support buildings, including a six-story office building, a medical facility, and a spare equipment warehouse with office space. There are two PAs at DCPP – one containing Units 1 and 2 and support buildings, and one containing the ISFSI. The current PA, RCA, and OCA are depicted on Figure 2-6. Support buildings and infrastructure are also located outside of the PAs at DCPP, including, but not limited to, a water treatment system, transmission infrastructure, fire department, intake and discharge structures, Intake Cove/marina, simulator/training building, and access buildings. All of the PAs and other related areas are within the existing OCA, however, only the area within the Site Boundary (illustrated in red in Figure 2-6) is currently regulated by the NRC.

In addition to the PA, RCA, and OCA, there is a 2,000-yard (1 nautical mile) security exclusion zone (see Figure 2-6) maintained around the DCPP site, which limits how close private boats can get to the DCPP (PG&E, 2022b). This security exclusion zone was established by the US Coast Guard and US Department of Transportation and became effective in January 2003 to increase safety and security measures on the water fronts of nuclear power plants following the September 11, 2001, terrorist attacks against the United States. Entrance into the zone is prohibited unless specifically authorized by the US Coast Guard Captain of the Port for Sector Los Angeles-Long Beach (US Coast Guard and US Department of Transportation, 2002).

Figure 2-6. Protected Area, Radiologically Controlled Area, and Existing Owner-Controlled Area



Source: PG&E, 2021a – Figure 2.2.3-1 (revised to add Coastal Zone Boundary).

2.2.3.2 Independent Spent Fuel Storage Installation

In December 2001, PG&E applied for a site-specific NRC license to build and operate an ISFSI to be located on the DCPP site. On March 22, 2004, the NRC issued Materials License No. SNM-2511, pursuant to 10 CFR Part 72, authorizing PG&E to receive, possess, store, and transfer SNF and associated radioactive materials resulting from the operation of DCPP to an ISFSI at the site for a term of 20 years. As stated in the site history discussion in Section 2.2.2.1, *Diablo Canyon Power Plant*, PG&E also applied for a DP/CDP for construction and operation of the ISFSI in perpetuity with the County in 2001, which was approved by the County and subsequently appealed and approved by the CCC in December 2004. Construction of the ISFSI began shortly thereafter. The ISFSI consists of seven storage pads containing space for 20 fuel storage casks each. PG&E began transferring SNF to the ISFSI in 2009. The ISFSI contains its own separate PA (i.e., security zone)

from the plant, as depicted on Figure 2-6. Transfer of SNF from the Spent Fuel Pool (SFP) to the ISFSI is scheduled to be completed by 2029.

2.2.3.3 Existing Mitigations and Encumbrances on the DCPP Property

CDP No. 4-82-593 for construction of PG&E's Simulator and Training Buildings required construction and operation of the Pecho Coast Trail, which has been operational since 1993. The 3.75-mile roundtrip Pecho Coast Trail runs from the DCPP's entrance at Port San Luis to the now-retired Point San Luis Lighthouse. There is also an 8-mile roundtrip hike along the Pecho Coast Trail northward to just beyond Rattlesnake Canyon that can be scheduled. The trail ends about 4 miles south of the DCPP PA and lies within the DCPP OCA. All hiking on these trails is docent-led.

The 1983 CDP also required PG&E to develop a public access plan to provide coastal access within the Diablo Canyon lands. The resulting Pecho Coast Trail Accessway Management Plan, and a subsequent memorandum of understanding between PG&E and the CCC, provides for public access to the Pecho Coast Trail via docent-led, day use-only hikes. The plan also included a payment by PG&E into an escrow account to pay for developing and maintaining the trail improvements.

As stated in the site history discussion in Section 2.2.2.1, *Diablo Canyon Power Plant*, CCC CDP No. A-3-SLO-04-035 for the construction and operation of the ISFSI mandated a deed restriction for the Point Buchon Trail to ensure its legal protection in perpetuity. The Point Buchon Trail extends from Montaña de Oro to Crowbar Canyon on the northern portion of the Diablo Canyon lands. The deed restriction was recorded on July 29, 2019. Hikers are required to sign in with trail docents to access the Point Buchon Trail and the number of visitors is limited to 275 hikers daily. Access to the trail is also limited to Thursday through Monday.

CCC permits, CDP No. E-06-011 and A-3-SLO-06-017, for DCPP's SGRP also mandated several public access enhancements including:

- funding access improvements to the Pecho Coast Trail, which included moving the trail entrance to its current location next to the DCPP Security Station on Avila Beach Drive;
- providing an access easement for the 1.8-mile Lighthouse Road, extending from just past the DCPP front entrance to the Lighthouse, for use by the Port San Luis Harbor District; and,
- recording an approximately 1,200-acre deed restriction around Point San Luis.

2.2.4 Ongoing Safety and Environmental Activities

Many ongoing safety and environmental-related activities currently in place at the operating DCPP site, including some required by the NRC, would continue throughout decommissioning and are not specific to the Proposed Project.

In addition to the ongoing safety and environmental-related activities at DCPP, Table 2-2 summarizes additional plans and programs that would be developed or are ongoing as part of the Proposed Project.

Table 2-2. Ongoing and Proposed Plans, Programs, and Reports

Plan, Program, Report (alphabetical)	Required by NRC	Required by Other Regs	Operations	Decommissioning	Summary	EIR Section Where Discussed
Biological Resources Monitoring Plan				■	The plan will outline all protocols and procedures for protection of sensitive on-site biological resources including responsible parties and contact information. The plan will require all initial ground disturbance and vegetation clearing within or immediately adjacent to undeveloped areas be monitored by a qualified biologist.	4.3, *Biological Resources - Terrestrial*
DCPP Hazardous Materials Business Plan		■	■		Existing plan to manage the hazardous materials inventory, emergency contacts, response strategies, and procedures for on-site refueling (refueling stations and fuel tank locations, maintenance, and operation) and provides a site plan.	4.10, *Hazardous and Radiological Materials*
Discharge Structure Demolition and Restoration Plan				■	Conceptual plans were developed (Application Appendix C and Appendix F) for the demolition of the Intake and Discharge Structures (removal of the Intake Structure is an alternative). A revised plan was prepared as part of the 30% design plans (July 2022). Demolition will be accomplished through conventional demolition means or a crane outfitted with a large steel ingot (i.e., wrecking ball), and will require installation of a cofferdam.	2.3.14, *Discharge Structure Removal,* and 2.3.15*, Discharge Structure Restoration*
Emergency Plan (Police Protection)	■		■	■	NRC-approved Emergency Plan for DCPP that contains existing requirements (letters of agreement and memorandums of understanding) for maintaining the capability to obtain off-site agency support as-needed for DCPP emergencies. In addition, NRC-approved Emergency Plans will be implemented throughout the Project commensurate with the potential radiological risks at each stage. The Emergency Plans include: (1) requirements for Emergency Planning staff trained to address unanticipated events for a permanently defueled facility 7 days per week/ 24 hours per day; (2) coordination and communication with off-site partners; and (3) on-site emergency preparedness drills and routine fire, medical, and emergency communication drills with off-site partners.	4.14, *Public Services and Utilities*
Erosion and Sediment Control Plan		■		■	The plan was developed for the DCPP site (Application Appendix B) and will be implemented along with a Storm-water Pollution Prevention Plan (SWPPP) to minimize erosion and runoff concerns. If disturbance at the SMVR-SB site exceeds one acre, a SWPPP would be prepared for this site.	4.8, *Geology and Soils*; 4.11, *Hydrology and Water Quality*

Table 2-2. Ongoing and Proposed Plans, Programs, and Reports

Plan, Program, Report (alphabetical)	Required by NRC	Required by Other Regs	Operations	Decommissioning	Summary	EIR Section Where Discussed
Grading Plan		■		■	A Preliminary Grading Plan for the DCPP site has been prepared to estimate the required amount of fill material needed on site through areas of cut (i.e., areas where the finished grade is lower than the existing grade) and re-use of clean, crushed on-site concrete derived through the demolition of structures (see Site Grading and Concrete Re-use Strategy Plan). The Grading Plan would also address DCPP site drainage.	2.3.16.1, *Remaining Grading and Fill Activities*
Groundwater Protection Program Plan		■		■	This plan will be developed to ensure the existing DCPP Groundwater Protection Program will continue to be implemented as the plant transitions into and completes decommissioning activities. The monitoring program under the Groundwater Protection Program will be updated to ensure the program complies with the requirements of the Nuclear Energy Institute's Ground Water Protection Initiative (NEI 07-07, Rev 1). The long-term monitoring program shall demonstrate the attenuation of tritium to levels below 20,000 pCi/L in the site monitoring wells.	2.3.21.1, *Groundwater Remediation*
Historical Site Assessment (HSA) Report	■				An HSA was performed in 2018 and will serve as the basis for the Site Characterization Study (SCS). The HSA Report is required by the NRC for a licensee's License Termination Plan and describes, among other things, the level and locations of radiological contamination.	2.3.7, *Site Characterization Study*
Discharge Demolition Anchoring Plan				■	A preliminary plan was developed (Application Appendix D). A revised plan was prepared as part of the 30% design plans (July 2022). This plan provides information on mooring and anchoring at the DCPP site for marine barges engaged in the demolition of the DCPP Discharge Structure.	4.4, *Biological Resources - Marine*
Intake Structure Closure and Barge Loading Plan				■	A preliminary plan was developed (Application Appendix T). This plan provides details on the permanent sealing and closure of the Intake Structure and three concepts for loading and unloading Intermodal Containers on deck barges. This Project Description incorporates the applicable information.	2.3.19, *Decommissioning Waste Transportation and Disposal*
License Termination Plan (LTP)	■			■	In accordance with 10 CFR 50.82(a)(9), PG&E is required to submit a LTP at least 2 years before termination of the NRC Part 50 facility operating licenses. At the point of terminating the licenses,	2.4.3, *NRC Part 50 Facility Operating Licenses Termination*

Table 2-2. Ongoing and Proposed Plans, Programs, and Reports

Plan, Program, Report (alphabetical)	Required by NRC	Required by Other Regs	Operations	Decommissioning	Summary	EIR Section Where Discussed
					the DCPP site would meet radio-activity release criteria for unrestricted use, in accordance with NRC regulations. The California Coastal Commission (CCC) is responsible for consistency reviews for the Coastal Zone Management Act related to LTPs approved by the NRC.	
Oak Tree Inventory and Mitigation Plan				■	A preliminary plan was developed (Application Appendix W). This plan identifies oak trees that may be removed or impacted by Proposed Project activities, provides avoidance and minimization measures for protection of oak trees located adjacent to Project activities, and proposes mitigation for oak tree removals and impacts.	4.3, *Biological Resources - Terrestrial*
Oil Spill Response Plan		■		■	A preliminary Oil Spill Response Plan (OSRP) was developed (Application Appendix G). A revised OSPR was pre-pared as part of the 30% design plans (July 2022). The OSRP was prepared in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300) as per the USEPA. This plan outlines the notification and initial response plans and procedures in the event of a nearshore (i.e., within 500 feet of the shoreline) oil spill incident during decommissioning.	4.4, *Biological Resources – Marine*; 4.11, *Hydrology and Water Quality*
Operating, Monitoring, and Maintenance Plan (OM&M)				■	The OM&M Plan will be included in the Storm-water Management Plan (SWMP), discussed below, and will consist of monitoring by a Qualified Storm Water Practitioner, or trained delegate, until the Notice of Termination for coverage under the Construction General Permit (CGP) is accepted (final stabilization is reached).	2.4.5, *Long-Term Stormwater Management*
Operational Plan			■	■	Developed by PG&E in cooperation with San Luis Obispo County Fire, the existing Operational Plan provides for the unified response in the event of an incident at DCPP. This plan is reviewed and updated on an annual basis. This plan addresses authorities, training and drills, firefighting pre-plans, incident command system, dispatch and notification, communications, security, radiation protection, safety, and support capabilities. Last updated May 12, 2021. Fire protection service needs at DCPP will change once all SNF has been moved to the ISFSI (2029). As such, the Operational Plan will be amended to specify the terms of the transition	2.3.23, *Site Conditions at End of Phase 1*

Table 2-2. Ongoing and Proposed Plans, Programs, and Reports

Plan, Program, Report (alphabetical)	Required by NRC	Required by Other Regs	Operations	Decommissioning	Summary	EIR Section Where Discussed
					process for fire protection services (see Transition Plan below).	
Pecho Coast Trail Accessway Management Plan		■	■		This is a public access plan required as part of the 1983 Coastal Development Permit (CDP) from the CCC (CDP No. 4-82-593). The plan provides for public access to the Pecho Coast Trail via docent-led, day use-only hikes on Wednesdays and Saturdays (to the Lighthouse) or the first Monday of the month (to the Rattlesnake Canyon loop). The permit also required a payment by PG&E into an escrow account to pay for developing and maintaining the trail improvements, which has been fully expended.	2.2.3.3, *Existing Mitigations and Encumbrances on the DCPP Property*
Radiological Environmental Monitoring Program (REMP)		■	■		Tritium groundwater sampling was initiated at DCPP in 2006 through the Radiological Environmental Monitoring Program (REMP). DCPP implements the NEI 07-07 Groundwater Protection Initiative through a plant procedure. The REMP samples from several onsite observation wells, as well as Deep Well #2, to monitor for tritium. Results of REMP are submitted to local, State, and Federal agencies on an annual basis via the Annual Radiological Environmental Operating Report.	2.3.21.1, *Groundwater Remediation*; 4.11, *Hydrology and Water Quality*
Radiological Protection Program	■		■	■	This program is based on numerous detailed plans and procedures implemented through comprehensive training and certification programs to ensure that employees are qualified and capable of conducting all operations safely and in compliance with applicable regulations, and that they are trained to respond to emergencies to protect workers and the public. The plans, procedures, and other requirements are specified in the DCPP facility operating license (and other regulatory permits, as appropriate), and the NRC provides regulatory oversight to verify that operations are conducted in compliance.	4.10, *Hazardous and Radiological Materials*
Revegetation Plan				■	This plan supports Phase 2 of the Proposed Project. Previous mitigation commitments for projects at DCPP have required that revegetation plans provide for long-term native plant cover compatible with surrounding areas of undisturbed native vegetation and wildlife habitat using local genetic sources of seed or cuttings for all native plant material. This same restoration goal will be adopted for final site restoration	2.4.4, *Grading and Landscaping (Final Site Restoration)*

Table 2-2. Ongoing and Proposed Plans, Programs, and Reports

Plan, Program, Report (alphabetical)	Required by NRC	Required by Other Regs	Operations	Decommissioning	Summary	EIR Section Where Discussed
					at DCPP. Following grading activities returning areas to natural contours, areas will be revegetated to establish native vegetation that is consistent with native plant communities and wildlife habitat.	
Site Characterization Plan / Site Characterization Study (SCS)	■			■	The SCS will be executed in the form of a Characterization Plan. This plan will include physical sampling and analysis based on the requirements contained in NUREG-15753 and regulations promulgated by the USEPA. This plan will provide for methodically documenting areas containing both radio-logical and/or chemical contamination throughout the DCPP site. The SCS is expected to be initiated in 2024.	2.3.7, *Site Characterization Study*
Site Grading and Concrete Re-use Strategy Plan				■	A preliminary plan was developed (Application Appendix O). A revised plan was prepared to reflect the 30% design plans (September 2022). This plan presents a strategy and recommendations for site grading, sources for fill material, and concrete reuse from building demolition activities to achieve an on-site cut/fill balance.	2.3.16.3, *Recycled Concrete*
Site-Specific Stormwater Pollution Prevention Plan (SWPPP)		■		■	A site-specific SWPPP will be prepared in compliance with the State's National Pollutant Discharge Elimination System (NPDES) in support of a CGP that will be required as the area of disturbance is greater than one acre. If disturbance at the SMVR-SB site exceeds one acre, a SWPPP will be prepared. The SWPPP will specify erosion and sediment controls to minimize construction impacts on surface water quality and be designed specifically for the hydrologic setting of the DCPP site. The SWPPP will identify potential pollutant sources vulnerable to rainwater events along the coastal bluffs surrounding the Discharge Structure and Intake Cove.	2.3.17, *Stormwater Management*
Spill Prevention, Control, and Countermeasure (SPCC) Plan		■	■	■	Required by 40 CFR 112 for facilities maintaining an inventory of more than 1,320 gallons of oil or oil-based pro-ducts. The SPCC Plan limits but does not eliminate the risk of oil spills through several measures including: proper storage and handling procedures, standard hazardous waste transport, training of personnel, procedures for fueling and maintaining construction equipment, and an emergency response program to ensure quick and safe cleanup of accidental spills.	4.10, *Hazardous and Radiological Materials*

Table 2-2. Ongoing and Proposed Plans, Programs, and Reports

Plan, Program, Report (alphabetical)	Required by NRC	Required by Other Regs	Operations	Decommissioning	Summary	EIR Section Where Discussed
Stormwater Management Plan (SWMP)		■		■	Following final site restoration activities, a SWMP will be prepared in accordance with the Low Impact Development (LID) requirements of the Central Coast Regional Water Quality Control Board, and any additional conditions as part of a 401 Water Quality Certification. The purpose of the SWMP is to implement long-term management of stormwater drainage from the site over the period of time required for revegetation to establish, and to minimize any sediment impacts from the site to Diablo Creek and the Pacific Ocean. The SWMP will include an analysis of the site hydrology and a design of post-grading stormwater conveyance systems and a post-construction monitoring program to support successful restoration.	2.4.5, *Long-Term Stormwater Management*
Transition Plan				■	This plan will provide for transitioning fire protection services from the DCFD to San Luis Obispo County Fire in a manner agreeable to both entities. It is anticipated this transition would occur once all SNF has been transferred to the ISFSI (2029).	2.3.23, *Site Conditions at End of Phase 1*; 4.14, *Public Services and Utilities*
Turbidity Monitoring Plan				■	A draft Turbidity Monitoring Plan was prepared (Application Appendix H). A revised plan was prepared as part of the 30% design plans (July 2022). This plan contains recommendations to avoid and minimize impacts to water quality associated with the demolition of the DCPP Discharge Structures and restoration of the area following removal. The plan describes protocols and methods to be implemented to minimize impacts to water quality, specifically turbidity, in accordance with standards in the California Ocean Plan.	4.4, *Biological Resources – Marine*; 4.11, *Hydrology Water Quality*
Waste Management Program	■		■	■	This program includes procedures describing the disposal of radiological and non-radiological waste from DCPP. The program involves required training and provides for the packaging and transport of different types of waste in compliance with regulatory requirements.	4.10, *Hazardous and Radiological Materials*
Wastewater Discharge Program		■	■	■	The water management approach to decommissioning is based on the ap-proved permit issued for DCPP power operations (NPDES CA0003751). PG&E plans to use similar areas for ocean intake and wastewater discharges as for existing DCPP operations.	2.3.20, *Water Management, including Management of the Seawater Reverse Osmosis Facility and Liquid Radioactive Waste*

Table 2-2. Ongoing and Proposed Plans, Programs, and Reports

Plan, Program, Report (alphabetical)	Required by NRC	Required by Other Regs	Operations	Decommissioning	Summary	EIR Section Where Discussed
DCPP Wildfire Safety Policy			■	■	The policy establishes the Fire Potential Index Rating, which determines the risk of fire and its likely behavior. The policy also includes the Wildfire Mitigation Matrix, which is a list of work activities, descriptions, and general risk reduction measures based on the Fire Potential Index Ratings for work within or near any forest, brush, or grass-covered lands.	4.17, *Wildfire*

Acronyms: CCC = California Coastal Commission, CDP = Coastal Development Permit, CFR = Code of Federal Regulations, CGP = Construction General Permit, DCFD = Diablo Canyon Fire Department, DCPP = Diablo Canyon Power Plant; HSA = Historical Site Assessment, LTP = License Termination Plan, NRC = Nuclear Regulatory Commission, NEI = Nuclear Energy Institute, NPDES = National Pollutant Discharge Elimination System, NUREG = US Nuclear Regulatory Commission Regulation, OM&M = Operation, Monitoring, and Maintenance, pCi/L = picocuries per liter, REMP = Radiological Environmental Monitoring Program, SCS = Site Characterization Study, SNF = spent nuclear fuel, SPCC = Spill Prevention, Control, and Countermeasure, SWMP = Stormwater Management Plan, SWPPP = Stormwater Pollution Prevention Plan, USEPA = US Environmental Protection Agency.

2.3 Proposed Project Activities Phase 1 – Pre-Planning and Decommissioning Project Activities (2024-2031)

Phase 1 of the decommissioning activities would commence after DCPP Unit 1 shuts down in November 2024.

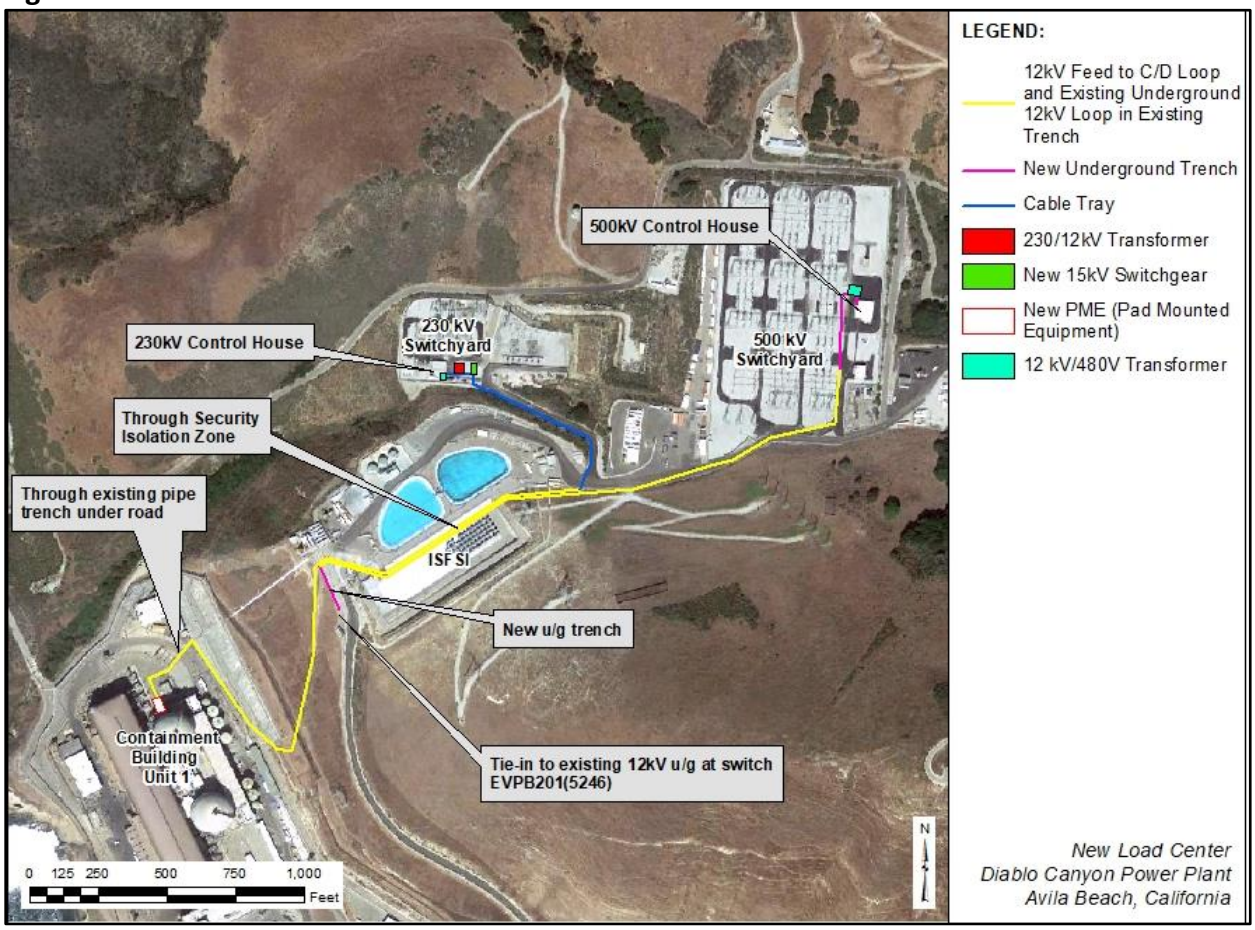
2.3.1 Cold and Dark Modifications

To reduce the risk of electrical injury during demolition, industry practice is to remove or disconnect the original power supplies from structures and components before starting demolition. This requires installing an alternate external power supply, which is referred to in the industry as Cold and Dark power, to support Project activities. The Cold and Dark power system would provide long-term power for existing Power Block systems and equipment that must continue to operate after the original main power system is deenergized to support decommissioning activities. The system would be in place prior to de-energizing and the portion covering the Power Block distribution system would be removed toward the end of Power Block demolition. The remaining portion of the system providing power to the ISFSI and GTCC Waste Storage Facility would remain in service until all SNF and GTCC waste has been removed from the DCPP site.

This system would make extensive use of existing electrical infrastructure, including the existing 12 kV underground distribution system and re-purposing of the existing 230 kV switchyard. The modifications to the existing 230 kV infrastructure involve installing a 230/12 kV transformer and load center in or near the 230 kV switchyard. The new load center would provide metering,

electrical protection, an interconnection to the Cold and Dark system, as well as the 12 kV underground system (see Figure 2-7).

Figure 2-7. New Load Center



Source: PG&E, 2021a – Figure 2.3.1-1.

Maintenance of equipment that must continue to operate during the Proposed Project would be performed under the DCPP lockout/tagout process to ensure that energy sources, including electrical power, are controlled in a deenergized state during necessary maintenance activities. This process is called e-SOMS and uses tags to identify the equipment that cannot be operated. It includes clearances, danger tags, caution tags, red tags, and information tags. The end state of this activity is referred to as an "air gap" since it creates a visually confirmable, permanent disconnection of the equipment from the original main power system. (PG&E, 2021d – PD-2)

Clearances are the electronic (computerized) paperwork to remove a system/component from service. The primary purpose is to remove energy from plant equipment to protect people and/or equipment during maintenance and testing. Clearances also authorize work, track and control and alignment of plant systems (configuration control), control the removal from service of plant equipment for tagging, and control the return to service of plant equipment after tagging. Danger Tags are used to maintain personnel safety by tagging devices to isolate sources of liquid, steam, or gas; and to isolate electrical power. Danger Tags are also used if a valve must be closed as a clearance boundary for personnel protection. Caution Tags are used to designate open vents and drains on clearances, control plant equipment configuration for testing, operating procedures,

or work orders. Red Tags are used by clearance holders (maintenance department) and workers to provide personnel protection by ensuring that a clearance point would not be violated. Information Tags are used to provide general information regarding the status of equipment. (PG&E, 2021d – PD-2)

2.3.2 Site Security Modifications

Security infrastructure includes various structures, systems, and components (SSCs) such as the Personnel Access Facility, fences, and gates. Although the existing security infrastructure is adequate for the current site layout and uses, some modifications are required to reflect the changing site, including a new security building, new security area, upgraded fencing, defensive positions, cameras, lighting, roads, and access paths/sidewalks. For safety reasons and based on federal preemption, details of these security modifications are not discussed in this document or other public forums.

DCPP Security would maintain security responsibilities throughout decommissioning. Once all the SNF is in the ISFSI and the DCPP site has been released from the NRC Part 50 facility operating licenses, the revised OCA would be established (see Figure 2-17) and the Avila Gate Guard House Facilities at Avila Beach Drive/Diablo Canyon Road would be removed (estimated to occur in 2035 as part of Phase 2). Existing and new guard gates would be in place (see Figure 2-17) to limit access to the area including an existing gate on North Ranch Road/Pecho Valley Road limiting access from the north, a new gate to be installed on Reservoir Road at the intersection of Diablo Canyon Road/Diablo Ocean Drive limiting access to the revised OCA, and a new gate within the Marina area at the start of the new blufftop road segment (see Figure 2-36) limiting access north along the new blufftop road and Diablo Creek Bridge. DCPP Security would maintain security responsibilities for the revised OCA. (PG&E, 2023d)

Public access to the open area outside the revised OCA would be restricted and not allowed, unless on the designated Pecho Coast Trail, Point Buchon Trail, or at the DCPP Marina. Assuming a third party leases the Marina area (see Section 2.7, *Future Actions – Retain Marina for Permitting and Reuse by Third Party*), public access to open areas outside the revised OCA would be restricted to the Marina and Diablo Canyon Road. No other public access would be provided. (PG&E, 2023d)

2.3.3 Site Infrastructure Modifications

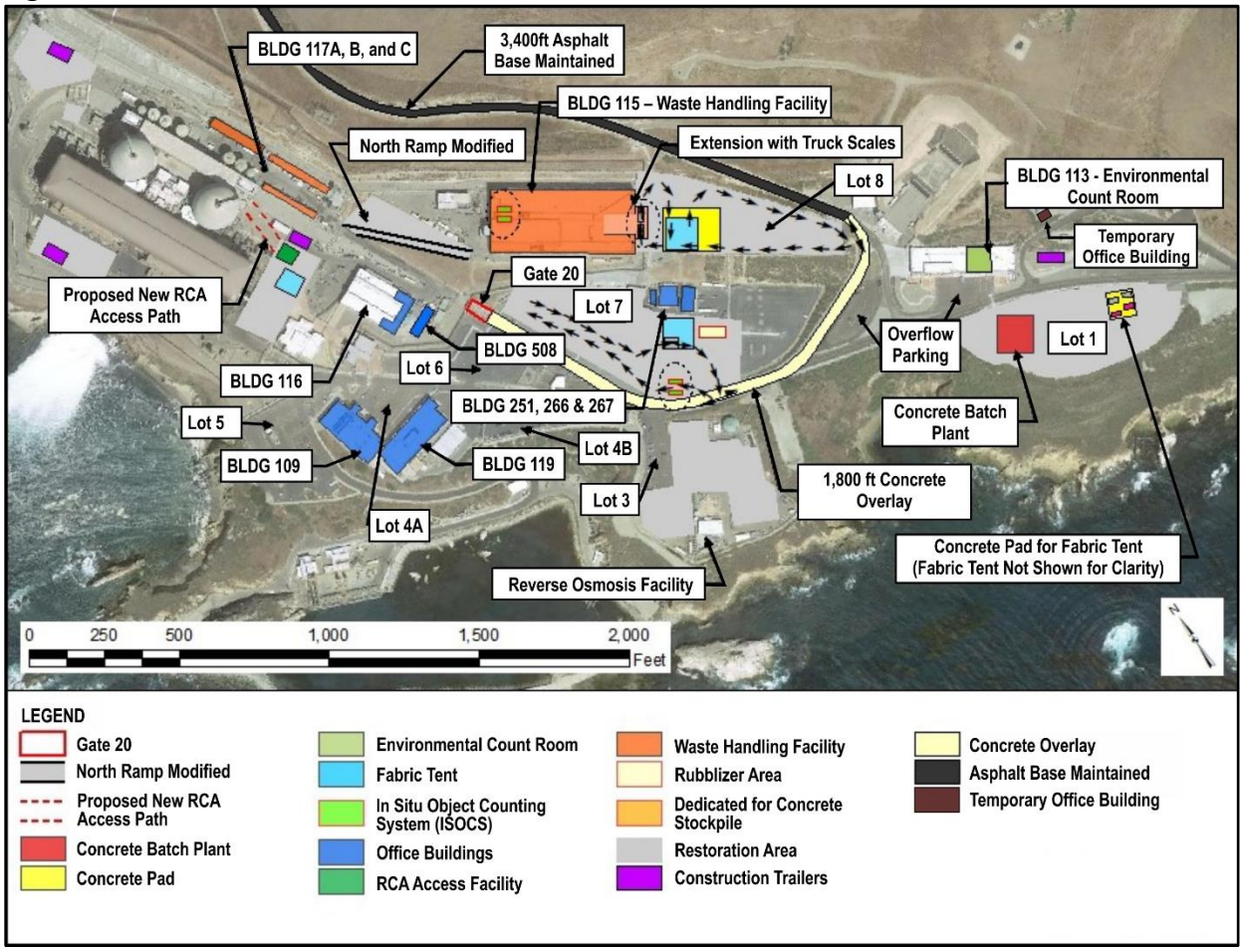
Site infrastructure modifications help to transition DCPP from an operational site to a decommissioning site and provide the necessary infrastructure to successfully execute the Project. These modifications involve changes to site facilities, civil features, utilities (in addition to Cold and Dark discussed above) and bringing in equipment to support general decommissioning activities. Additional facilities as well as modifications to existing structures (see Figure 2-8) would be completed to provide the following:

- Decommissioning Office Building
- Intermodal Repair Facility
- Waste Handling Facility (BLDG 115)
- Environmental Count Room/Lab (BLDG 113)
- Laydown Areas
- Rubb Tents
- Stockpile Areas
- Concrete Batch Plant
- Barge Loading Facility (crane) on the Intake Structure

For example, approximately eight Rubb tents, which are constructed using a rigid frame with a sturdy fabric stretched over the frame and tensioned to provide structural support, would be used to store and provide shelter for materials, equipment, debris, and waste. Approximate locations are indicated in Figure 2-8; all tents would be sited in previously disturbed areas. (PG&E, 2021e – PD-3)

The decommissioning office building would be located off of Decom Avenue and constructed on top of a concrete slab on grade (see Figures 2-8 and 2-9). The office would be metal, 2,880 square feet, 48 feet wide, and approximately 22 feet tall (ERM, 2023b). Utilities including electricity, water, wastewater treatment, and communications would be required for this building (ERM, 2023b). The existing sanitary wastewater treatment plant would be used to support this decommissioning office building through 2031 (end of Phase 1).

Figure 2-8. Lower Site Infrastructure Modifications



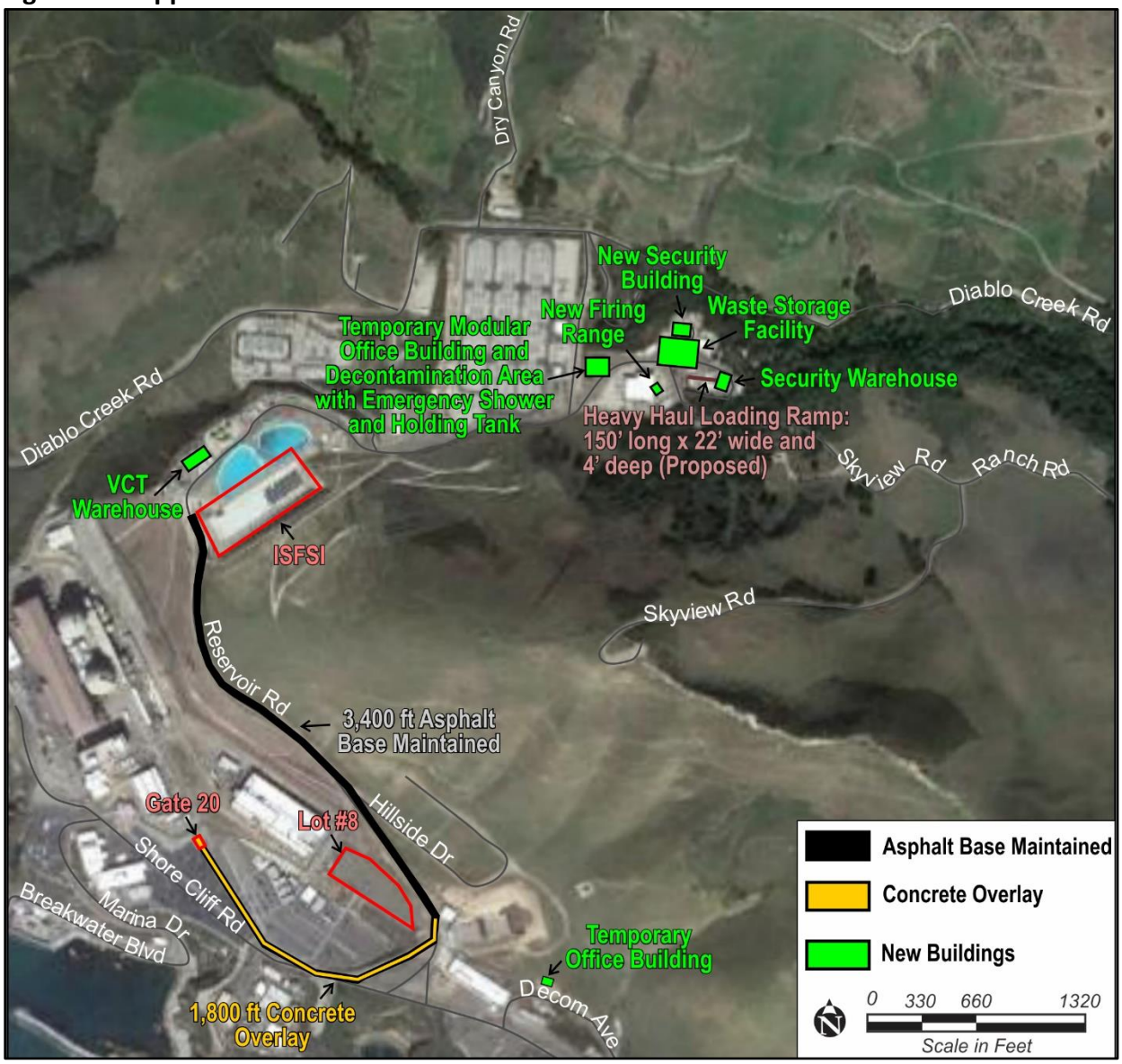
Source: PG&E, 2021a – Figure 2.3.3-3 (modified to correct label for BLDG 115); ERM, 2023b.

In the revised OCA (East Canyon Area), an approximately 12,000 square-foot building would be constructed to serve as the new Security Building for the ISFSI and the GTCC Waste Storage Facility (see Figure 2-9). This building would be no greater than two stories with a maximum height of 40 feet (PG&E, 2021d – PD-3). A new indoor Firing Range would also be built in the area adjacent to the GTCC Waste Storage Facility and Security Building. It would be approximately

3,000 square feet, have a maximum height of 25 feet (PG&E, 2021d – PD3) and be designed to meet NRC licensing requirements. The new indoor Firing Ranch would contain the following:

- Multiple firing lanes
- Floor to ceiling steel plating
- Bullet traps
- Target systems Range controls
- Sound treatment
- Range lighting
- Control Room

Figure 2-9. Upper and Lower Site Infrastructure Modifications



Source: PG&E, 2021a – Figure 2.3.3-2 (revised); ERM, 2023b.

In addition to the new Security Building and indoor Firing Range, a separate outbuilding would be constructed in the vicinity of the main new Security Building (see Figure 2-9). The intent of this separate building is to provide storage for larger material, vehicles, trailers, maintenance equipment, etc. This outbuilding is anticipated to be no more than 15,000 square feet (PG&E, 2021d – PD-3). A Security Warehouse is also proposed in the revised OCA (see Figure 2-9) as a permanent structure intended to support security-related long-term operations of the ISFSI. This metal warehouse would be constructed on top of a concrete slab on grade, and would be approximately

4,800 square feet, 60 feet wide, 80 feet long, and 25 feet tall (ERM, 2023b). In addition, a temporary modular office building would be installed to provide construction office space in the revised OCA to support site personnel during decommissioning along with a decontamination area with an emergency shower and a holding tank (see Figure 2-9). To support SNF transport, a new VCT Warehouse would be constructed north of the ISFSI pad (see Figure 2-9). The metal building would be approximately 5,400 square feet, 60-feet wide, 90-feet long, and up to 40 feet tall (ERM, 2023b). Utilities, such as electricity and communications, would be installed to support these facilities as required (ERM, 2023b).

An existing septic and dispersal system, designed and implemented circa 1968 to serve the facilities in the East Canyon Area, currently serves 10 toilets, 3 urinals, and 9 sinks for a building in the East Canyon Area (PG&E, 2023f). To support the improvements in the revised OCA, this existing septic and dispersal system would be upgraded, or a new septic system established to ensure consistency with County ordinances related to sewage disposal systems and wastewater management (e.g., Titles 19 and 22) including setbacks from water sources, and Regional Water Quality Control Board requirements, as appropriate (PG&E, 2023f). Based on the proposed facilities within the revised OCA, the anticipated footprint of the septic and leach field is estimated to be between 10,000 and 20,000 square feet.

A new GTCC Waste Storage Facility would be constructed on the east end of Parcel P at the East Canyon Area. Specifically, the site would be located directly east of the 500 kV switchyard and approximately 1,500 feet east of the existing ISFSI. A concrete pad approximately 150 feet wide by 200 feet long would be constructed (PG&E, 2021e – PD-7) to accommodate up to 10 GTCC waste storage containers, which would be similar to the horizontal spent fuel casks that will be at the ISFSI. Construction of the GTCC Waste Storage Facility would be similar in design to the ISFSI concrete pad and constructed in accordance with NRC regulations. GTCC waste is discussed further in Section 2.3.18. A heavy haul loading ramp would also be constructed for the off-loading/loading of ISFSI and GTCC waste transportation casks for transport to an off-site repository when one becomes available.

The primary ingress and egress to DCPP is via Diablo Canyon Road, which is a paved, 7-mile, two-lane road from Port San Luis to the DCPP site. This road would host traffic during decommissioning ranging from trucks and other specialty equipment carrying construction debris, waste, and large components to routine employee travel. This access road would be maintained to support this type of equipment and traffic. Maintenance activities include chip sealing, crack sealing, asphalt patching, asphalt overlays, and grinding efforts followed by replacement asphalt inlays.

The recently improved secondary access road (North Ranch Road/Pecho Valley Road) is approximately 4.5 miles long and consists mostly of a hard-packed, permeable surface, with some of the steeper areas paved. The road extends from the southern boundary of Montaña de Oro State Park to the DCPP site and is not used for day-to-day plant operations. No modifications are planned for this road as part of the Project. However, it would remain an alternate route for site vehicular traffic if the south access road were out of service (e.g., a landslide or extended repairs) and it supports ongoing agricultural activities. The road also serves as a County Fire Department access road and could be used as an emergency evacuation route for Avila and Port San Luis, if Avila Beach Drive and/or San Luis Bay Drive were compromised. The North Ranch Road/Pecho Valley Road would require periodic maintenance, mostly for weather-related reasons, depending

upon its level of use. As noted in Section 2.4.7, *Blufftop Road Segment*, a road segment would be constructed at the end of decommissioning to reconnect Diablo Canyon Road with the existing Diablo Creek Bridge and North Ranch Road/Pecho Valley Road. This would return historic vehicular movement through the DCPP site as well as provide a more direct secondary emergency vehicle access route than the current route, which requires traversing from Diablo Canyon Road to Reservoir Road, then past and east of the 500 kV Switchyard, and then back west behind the 500 kV Switchyard on Pecho Valley Road, where it then proceeds northward on North Ranch Road/Pecho Valley Road.

As shown in Figures 2-8 and 2-9, an 1,800-foot concrete overlay would be applied on the entire roadway from the Gate #20 entrance (to the PA) to the Parking Lot 8 entrance to facilitate transport around the lower DCPP site. An asphalt base would be maintained on the 3,400-foot-long road from Parking Lot 8 up towards the ISFSI (also known as Reservoir Road). Additional roadway repairs are planned to occur after major heavy load activities are completed (e.g., the SNF/GTCC waste are transferred to the ISFSI and GTCC Waste Storage Facility, respectively, and other large components from the OSGSF east of the ISFSI are shipped off site).

Site utilities would need to be modified to support changing conditions and added or upgraded to meet the future intended use. Some of these modifications include relocating fire hydrants and underground piping, installing domestic and wastewater piping, and removing and relocating telecommunications and information technology equipment.

Specialty equipment needs to be installed throughout the DCPP site to support decommissioning processes. Some of this equipment includes truck scales, portal monitors, and assay survey systems, which would be located in previously disturbed areas of the DCPP site.

An Alternate Access Control Facility would be constructed to provide additional access to the RCA. The facility would reduce impacts to the critical radiological activities, reduce non-essential personnel on the 85-foot elevation of the Auxiliary Building where the existing RCA access control is located, and provide alternate RCA access for waste loading and transportation personnel.

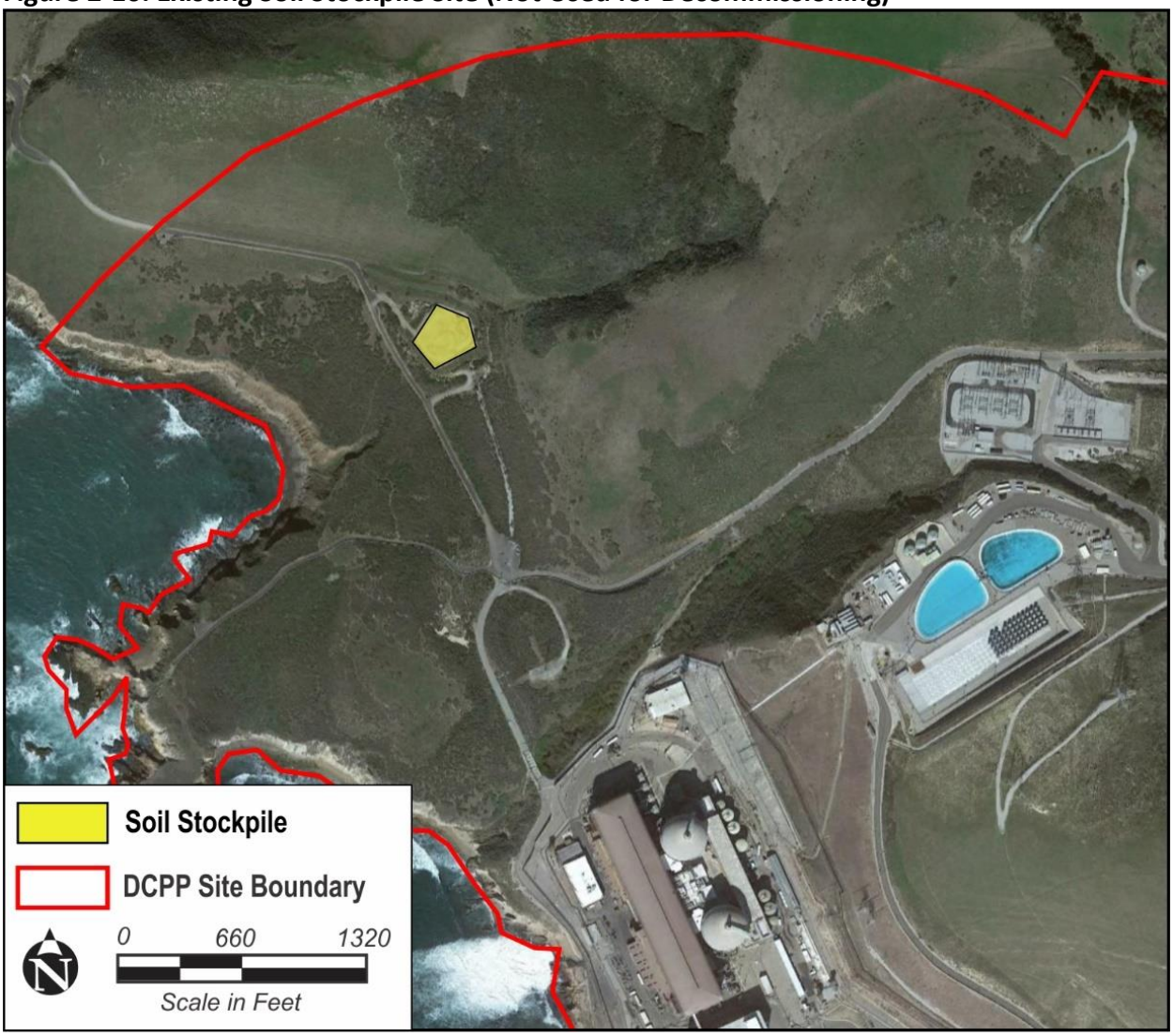
Parking would be provided within existing Parking Lots 3, 4A, 4B, 5, 6, the northern portion of Lot 1, as well as overflow parking adjacent to Building 113 (see Figure 2-8). This would provide adequate parking for decommissioning staff and no off-site parking/shuttle service is expected.

Most decommissioning staff would utilize Buildings 109, 119, 251, 266, 267, 508 and a portion of 116 (see Figure 2-8). These are existing structures and minimal improvements are expected to support decommissioning. Additionally, PG&E intends to utilize approximately 10 double-wide temporary office trailers with an estimated size of 60 feet by 28 feet. Most on-site decommissioning personnel would be accommodated in existing buildings / office spaces, with the use of the temporary office trailers limited to craft trades and to increase efficiency for specific scopes of work. As decommissioning progresses and existing on-site office spaces are demolished, the workforce is expected to decrease in size and eventually transition into the temporary office trailers, which would be placed either on paved surfaces or previously disturbed areas. (PG&E, 2021e – PD-3)

Parking Lots 7, 8, and portions of Lot 1 would be utilized as laydown areas, as would the slab of Building 104 (Administration Building) south of the Power Block and adjacent to the RCA access

facility. A concrete rubblizer (i.e., a machine that breaks up concrete into small pieces) would reside in the southern portion of Lot 7, while a concrete batch plant would be sited in the northern portion of Lot 1. Spoils created by digging and grading activities would be temporarily stored on site in existing disturbed areas, such as the Firing Range; the existing stockpile area north of the Power Block and Diablo Creek (see Figure 2-10) would not be utilized (i.e., no improvements, no material generated from this area, no material placed).

Figure 2-10. Existing Soil Stockpile Site (Not Used for Decommissioning)



Source: PG&E, 2021a – Figure 2.3.3-4 (revised to reduce scale).

Modifications to the Intake Structure and surrounding area would be made to load barges for waste transportation using a crane. A fendering system as well as various mooring points would be installed on the face of the Intake Structure and breakwater for barges.

2.3.4 Modifications and Operations at Rail Facilities

Class A, B, and C radioactive waste from the reactor pressure vessels and internals (as discussed in Section 2.3.10) and radiologically contaminated large components (as discussed in Section 2.3.11) may be hauled by heavy truck or specialty heavy-haul transport vehicle (oversized

truck/trailer) directly out of state for disposal or to the SMVR-SB site (Betteravia Industrial Park) for transport out of state via rail for disposal (PG&E, 2021e – AQ-17). It is not anticipated that the waste transported to the SMVR-SB site would include asbestos materials, hydrocarbons, or other toxic air contaminants, fine particulates, or odor containing materials (PG&E, 2021e – AQ-17).

Non-radiological and non-hazardous waste may be trucked to the PBR, as a contingency, for transport out of state via rail for disposal. Improvements and proposed operations at these facilities are discussed further below. Construction of these improvements could be accomplished within one month; however, based on possible contracting delays or other factors, it is assumed construction could take up to 12 months. Construction activities would occur 7:00 a.m. to 5:00 p.m., Monday through Friday (PG&E, 2021c – PD-4).

2.3.4.1 Santa Maria Valley Railyard Modifications

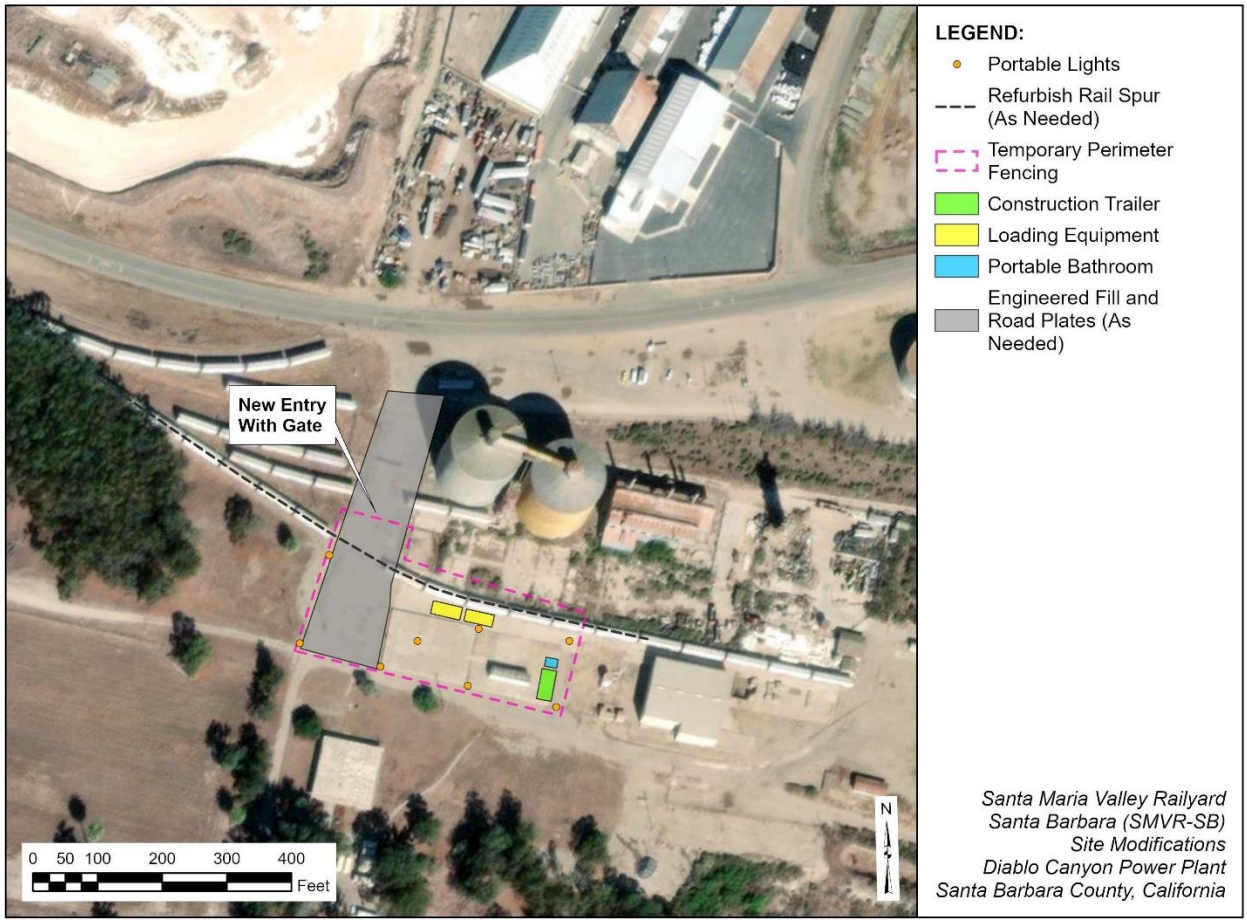
Infrastructure Modifications. Modifications at the SMVR-SB site (Betteravia Industrial Park) would be completed by SMVR (not PG&E). Modification would be limited to an approximately 2-acre area (PG&E, 2021f) and include mostly aboveground temporary components. Specifically, modifications at the SMVR-SB site would include (PG&E, 2021c – PD-4; PG&E, 2021g):

- refurbishment of existing rail spurs; no changes to the existing grade are expected
- placement of steel road plates or installation of approximately 3 to 4 inches of Class 2 road base (approximately 500 cubic yards) where existing base is degraded and unable to support heavy loads
- temporary installation of an 8-foot-high chain link perimeter fence with three strands of barbwire at the top and privacy screen attached in adherence with federal regulations for protection of members of the public as well as vendor equipment
- equipment for loading material from trucks to railcars, which could include:
  - one temporary 400-ton electric gantry crane with generators
  - two truck-mounted cranes
  - two diesel-powered scissor lifts
  - two diesel-powered reach lifts
  - two diesel-powered forklifts
  - railcar mover (need has yet to be determined)
- temporary site lighting
- temporary office trailer to support on-site staff (see security discussion below); no overnight habitation is required
- temporary security cameras attached to towers mounted to compact, portable trailers the provide the foundation and power[5]
- portable toilets and bottled water service (e.g., 5-gallon water cooler bottles) for on-site staff
- portable power supply which may include a 425-kilowatt trailer-mounted diesel generator, or similar sized equipment to provide power to the site.

[5] For an example of security cameras mounted on portable trailers: http://www.securitasmobileus.com/netvision.

No grading is planned as part of the proposed site improvements at the SMVR-SB site (PG&E, 2021f). Figure 2-11 depicts the proposed modifications at the SMVR-SB site. The approximate locations of stationary equipment such as the gantry crane, office trailer, and portable toilets are provided. The remaining equipment is mobile and would be used throughout the site.

Figure 2-11. Betteravia Industrial Park (SMVR-SB) Modifications



Source: PG&E, 2021a – Figure 2.3.4.1-1.

Operation. The hours of operation for the SMVR-SB site would be 24 hours, Monday through Friday. See Section 2.5.2 for staffing requirements. As noted in Table 2-7 (see Section 2.3.19.2), a maximum of 99 shipments (truck trips) would occur during 2024-2029 (no shipments are anticipated between 2030 and 2031 – PG&E, 2021e – AQ-19). During this timeframe, an average of one to six shipments would take place per month. However, there is the possibility that a maximum of 15 shipments could occur in any month and conversely, there could be several months where no shipments occur. No more than two shipments (truck trips) to the SMVR-SB site would occur on a given day. Shipments to the SMVR-SB site and unloading and loading onto rail would occur during varying times of the day and night; however, no shipments would occur between 6:00 a.m. and 8:00 a.m. or between 4:00 p.m. and 5:30 p.m. No right-of-way access restrictions would be imposed on surrounding land uses. (PG&E, 2021c – PD-4)

Security during receipt and storage of the Class A, B, and C wastes would be maintained pursuant to 49 CFR 172.820. Due to the possibility of loaded railcars needing to remain at the site for a maximum of seven days before being transported via rail to the out-of-state destination, a

security presence would be maintained for the duration of time when each shipment is received and temporarily stored at the SMVR site. Based on the applicability of 49 CFR 172 for the Class A, B, and C wastes that would be shipped to and from the SMVR site, 49 CFR 172.802 requires a Security Plan be developed that includes definition of the personnel and duties for each position that is responsible for implementing the Security Plan. Although the applicable Security Plan is not yet developed, PG&E intends to specify the requirement for a security presence to be maintained for the duration of time when each shipment is received and temporarily stored at the SMVR site (PG&E, 2021c – PD-4). Sections 2.3.10 and 2.3.19 discuss how Class A, B, and C wastes would be stored, packaged, and transported out of state for disposal (also refer to Appendix G).

2.3.4.2 Pismo Beach Railyard Modifications

The PBR site is approximately 9 miles south of the Avila Beach security gate for DCPP. It has been identified as a possible facility for transporting non-radiological waste and non-hazardous waste via rail out of state. No radiological nor hazardous waste is proposed to be transported via the PBR. It is merely identified as a back-up or contingency facility for potentially shipping non-radiological and non-hazardous waste and other materials. Access to the PBR site would occur via the existing Bello Street driveway and not from the existing Price Canyon driveway. The existing security gate is operated via a security key card that would be used to allow trucks into the site. The process time would be approximately 30 seconds or less such that there would be no expected queuing of trucks (PG&E, 2022b – DR#8, Transportation 4).

Infrastructure Modifications. Modifications at the PBR would be limited to refurbishing existing rail tracks within the limits of the existing facility. Refurbishment would include replacing approximately 1,100 feet of track, wood railroad ties, and adding gravel (PG&E, 2021b – CUL-4). No additional ground disturbing activities are planned within the PBR site. No upgrades to the access route are needed (PG&E, 2021c – PD-8). The same equipment proposed for loading material from trucks to railcars at the SMVR-SB site may be used at the PBR, except for the 400-ton gantry crane and truck-mounted cranes (PG&E, 2021e – AQ-18).

Operation. If the PBR site is used, PG&E has committed to shipping non-radiological and non-hazardous waste outside peak traffic periods (7:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m.) and to limit truck idling to the extent feasible (PG&E, 2021b – Noise-1). The daily average number of trucks leaving the site is dependent on the activities being performed during that time frame; a maximum of five truck trips per day is anticipated (PG&E, 2022b – DR#8, Transportation 3).

The PBR site would be operated during normal business hours, 7:00 a.m. to 5:00 p.m. Monday through Friday (PG&E, 2021b – Trans-4). However, as noted above, truck trips would not occur during peak traffic periods, including the morning drop-off (approximately 8:30-9:30 a.m. Monday; 7:30-8:30 a.m. Tuesday-Friday) and afternoon pickup (approximately 2:00-3:00 p.m. Monday-Friday; 11:00 a.m. – 12:00 p.m. on Minimum Days) periods for students at Judkins Middle School (Lucia Mar Unified School District, 2023). See Section 2.5.2 for staffing requirements.

Temporary storage of any non-radiological or non-hazardous waste at the rail sites would be kept at least one foot above any existing Federal Emergency Management Agency (FEMA) 100-year floodplain elevation (PG&E, 2021b – Hydro-2).

2.3.5 System and Area Closure

Before site buildings are demolished, each building or structure (whether contaminated or non-contaminated) would be prepared for demolition by removing selected SSCs – this preparation process is termed System and Area Closure. The Site Characterization Report (see Section 2.3.7) would identify potential hazards and contaminants at the site and would be used to guide the initial D&D activities, including System and Area Closure. It would be supplemented by ongoing site characterization throughout the D&D process.

Controlling the spread of radioactive or other hazardous materials during removal of SSCs would be accomplished using industry standard control methods based on the degree of contamination. A typical approach is to (1) isolate the immediate work area from other areas, (2) control access into that area, and (3) cover or apply a protective coating or fixative (referred to as "lockdown" and is typically a polymer-based latex paint) to lock down contamination once an SSC is removed from its installed location. Several SSC dismantlement and removal examples are provided below.

- For a building or other structure containing SSCs with high levels of radioactivity, these SSCs would be dismantled and removed while the structure is intact (i.e., before structure demolition), as appropriate. The structure provides a barrier to prevent the release of radioactive materials to the environment.
- Where minimally contaminated or non-contaminated systems are present (e.g., in the Turbine Building), SSCs may be removed during structure demolition. Heavy equipment would be used to demolish the SSCs into a large rubble pile, with the material then segregated by types or waste stream, as required.
- In a structure with both hazardous and non-hazardous SSCs, hazardous SSCs would be removed. Remaining non-hazardous SSCs would be removed during structure demolition using heavy equipment, as appropriate.
- Non-hazardous SSCs would be sorted or segregated as required for disposal.

Although most SSCs would be removed from within structures, any SSCs that remain below grade and meet the NRC-approved release criteria (to be determined based on Final Status Surveys [FSS]) would be backfilled, grouted, plugged, or filled with concrete to not create a void space over time after the area is backfilled. Repurposed, clean material would be utilized for backfill purposes and local suppliers would provide slurry backfill, if needed.

2.3.6 Auxiliary Saltwater System

The current configuration for SFP cooling utilizes the original once-through-cooling auxiliary saltwater system, component cooling water system, and the SFP cooling system. The existing once-through-cooling auxiliary saltwater cooling system would remain in place as the method for SFP cooling until all SNF is transferred to the ISFSI (to be completed by 2029).

2.3.7 Site Characterization Study

The Site Characterization Study (SCS) would determine the nature and extent of potential radioactive and non-radioactive contaminants that may exist at the DCPP site. A Historical Site Assessment (HSA) was performed in 2018 and would serve as a basis for the SCS. The HSA was a

preliminary investigation designed to collect existing information describing the history of the DCPP site from start of operations to present. The HSA documents an investigation relying on historical and current information regarding plant operation and activities to determine the potential for contamination of structures and areas at the DCPP site. The HSA identified potential, likely, or known sources of radioactive and non-radioactive contamination based on information collected and reviewed during this effort. The assessment consisted of record review, regulatory reporting, radiation/contamination survey data, and personnel interviews.

During completion of the HSA, the DCPP site was broken out into discrete areas of study and classification. A preliminary classification of "impacted" or "non-impacted" was given to each discrete study area based on the potential of containing both radiological and non-radiological contamination. The SCS would be executed in the form of a Site Characterization Plan. The intent of the SCS is to methodically document areas containing both radiological and/or chemical contamination throughout the DCPP plant site. The Site Characterization Plan would include physical sampling and analysis based on the requirements contained in NUREG-1575 and regulation promulgated by the US Environmental Protection Agency (USEPA).

The SCS would inform D&D methods and determine which areas would require excavation or remediation to remove any radiological or chemical contamination to allow for restoring such areas to a natural environmental state and prepare the site for FSS in order to release the DCPP site from the NRC Part 50 facility operating licenses.

The SCS would be carried out in two steps. Step 1 would be a limited characterization of the East Canyon Area to support site infrastructure improvements to be carried out in 2024, including construction of the new security building and GTCC Waste Storage Facility. The East Canyon Area will remain an operating industrial area subject to a Part 72 NRC License, such that the site characterization and any required remediation in this area will focus on management of soils disturbed by infrastructure construction activities and protection of future site occupants.

Step 2 would be initiated in 2024 (after the shutdown of Unit 1) to determine the areas and extent of chemical and radiological contamination at the DCPP site and its structures, including all sumps, drains, and pits and any accumulated debris, prior to removal and shipment for off-site disposal. This study cannot be initiated sooner as there is a possibility of soil contamination occurring during DCPP operations, which would alter the baseline established by the SCS. (PG&E, 2021d – PD-4)

With respect to existing contamination at the site, PG&E has not collected samples to confirm the presence or absence of Polychlorinated Biphenyl (PCB [a manmade chemical]) contamination in the turbine building Galbestos siding, in the wiring and insulation within the DCPP structures, or in building coatings or caulking. The current waste management program at DCPP assumes the positive presence of PCBs in specific operational waste streams (e.g., light ballasts, transformers, capacitors, etc.). Those waste streams are managed and disposed of according to federal and state regulations and sampling to test for the presence of PCBs is not required. As part of the SCS, PG&E will evaluate the potential for PCB contamination in plant components and/or the surrounding environment, and if found, would be removed and disposed of according to federal and state regulations. (PG&E, 2021e – PD-13)

The site does have asbestos containing materials (ACM) in certain structures, systems, and components. There are also discrete areas containing Halon fire suppression and multiple areas of equipment containing Chlorofluorocarbon (CFC) refrigerant. Refrigerant containing systems would be evacuated by licensed contractors and the fluids recycled as required. Similarly, equipment containing oil would be drained and/or vacuumed from equipment and disposed of or recycled per state and federal regulations. Where lead (PB) paint is found, it would be controlled as follows: (1) tightly adhered coating would be disposed of with general debris; and (2) loose coatings would be disposed of as a Resource Conservation and Recovery Act (RCRA) waste stream at a licensed out of state disposal facility. All regulatory requirements related to the removal and abatement of ACM and PB would be followed. Concrete would be characterized for radiological and hazardous constituents throughout the site; any contaminated concrete would be properly handled and shipped off site for disposal. (PG&E, 2021d – PD-4, PD-5)

DCPP has a robust hazardous waste program, is a Large Quantity Generator (generates greater than 2,200 pounds of RCRA waste per year) and is a Treatment Storage and Disposal Facility with a part B permit that would continue to be utilized throughout the Proposed Project. Operational Universal waste is currently disposed of by truck to a licensed disposal facility. All oil-containing wastes are profiled, recycled, and disposed per Federal and State regulation. During decommissioning, all hazardous wastes would be removed from DCPP by barge or truck to licensed out of state disposal facilities (see Section 2.3.19). (PG&E, 2021d – PD-4)

2.3.8 Decontamination

Decontamination activities during decommissioning would be carried out in three distinct work programs. It begins with the removal, remediation, and/or abatement of all known hazardous and/or regulated materials in advance of either removing a system from within a structure, removing a large component from within a structure, and/or demolishing a structure. All abatement and/or remediation activities would comply with applicable regulations regarding abatement and/or remediation activities.

The next step involves preparation of a structure for open-air demolition by limited surface decontamination efforts for either special and/or unique cases. An example of a special or unique case would be a surface area exhibiting alpha-emitting contamination, or in a case wherein the application of either a fixative or some other form of lockdown media is deemed insufficient to seal off loose contamination.

The third step involves radiological decontamination of the residual surfaces of a structure following open-air demolition in support of FSS (see Section 2.3.22) and the follow-up independent third-party confirmatory surveys. Decontamination efforts would be completed to achieve a dose level that meets a derived concentration guideline level (DCGL). The DCGL is the driver for how much radioactive contamination must be removed to meet the criteria set forth by the License Termination Plan (LTP) as prescribed by the NRC. This means any residual remaining radioactivity must meet the standard of a resident farmer, whereby if a farmer were residing at the DCPP, that person must not receive greater than 25 millirem dose in a year from any remaining radioactivity remaining on the site (PG&E, 2021d – PD-5).

All site decontamination activities would comply with approved site procedures as well as applicable radiological and hazardous regulations. Various options and techniques exist for decontamination of surfaces during decommissioning. The approach used for decontamination is mainly determined by the site characterization for that area and the amount of surface area undergoing decontamination. It is anticipated that for vertical walls, handheld scabblers would be used to decontaminate smaller areas and a sponge blasting system would be used for larger areas. Horizontal floor surfaces would be decontaminated utilizing either a floor shaver or a scaling drum. The floor shaver would be used to perform the bulk of the horizontal decontamination workload. The scaling drum would be used to decontaminate floor areas that are heavily cracked and are somewhat deteriorated, where the floor's surface was exposed to long-term radiologically contaminated liquids that may have penetrated deep into the concrete.

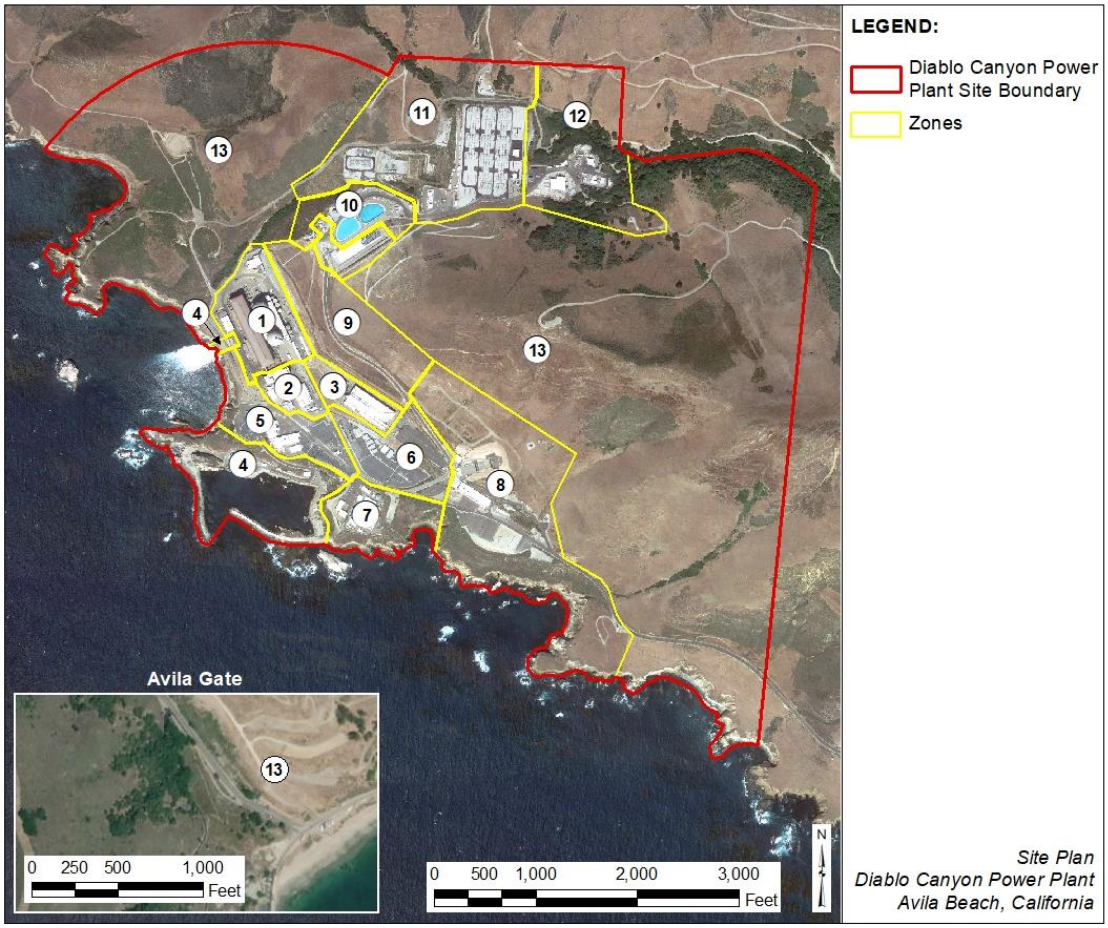
2.3.9 Building Demolition

The DCPP site has over 100 buildings containing over 1.4 million square feet of floor space. Most of the buildings directly related to generation of electricity are robust concrete and steel structures. Ancillary buildings of various construction types are also located throughout the DCPP site. Building demolition consists of demolition and removal of above-grade structures, and removal of all or some foundations. The extent of foundation removal is determined on a structure-by-structure basis. Foundations would either be removed to a depth of 3 feet (minimum) below local grade or entirely removed to a depth of greater than 3 feet with the remainder to be backfilled, as specified by NRC regulation.[6]

For planning purposes, the DCPP site was divided into twelve zones (1 through 12), as shown in Figure 2-12. Separate zones allow for certain areas to be demolished and released in smaller-sized pieces. A thirteenth zone was created to include all other items outside these 12 distinct zones, as well as larger items that cross multiple zone boundaries (e.g., the circulating water tunnels). An inventory of site buildings by zone is provided in Table 2-3.

[6] When demolishing nuclear power plant facilities, the industry standard is to remove structures a minimum of 3 feet below adjacent grade. Release criteria for the DCPP site is set for unrestricted use in accordance with 10 CFR 20.1402, and the minimum of 3 feet below grade is the generally accepted depth to allow for potential future use. Final Status Surveys, including NRC verification surveys, would be conducted on any below grade structure prior to backfilling with suitable fill materials and grading. Any remaining below grade structures would be analyzed to demonstrate compliance with applicable NRC release criteria. (PG&E, 2021b – PD-9)

Figure 2-12. DCPP Site Plan



Source: PG&E, 2021a – Figure 2.2.1-2.

Table 2-3. Zone Listing and Existing Major Structures

Zone	General Area	Existing Major Structures in Zone
1	Power Block and Northern PA	Unit 1 and 2 Containment Structures Unit 1 and 2 Auxiliary Building Unit 1 and 2 Fuel Handling Buildings Unit 1 and 2 Pipeway Structures Unit 1 and 2 Turbine Building Outdoor Water Storage Tanks RCA Laundry and Radwaste Storage Facilities RCA Calibration Facility Unit 1 and 2 Transformer Yard Oil Retention Basins Service Air Building I&C/Medical Facility Auxiliary Boiler Enclosure–Craft Facility - Storage and Assembly Building Warehouse A Paint Department Facility Modular Office Buildings Toilet Trailer

Table 2-3. Zone Listing and Existing Major Structures

Zone	General Area	Existing Major Structures in Zone
		Abandoned Diesel Storage Tanks
2	Southern Lower PA	Administration Building Security Office Building Protected Area Access Facility Cold Machine Shop Office Trailers
3	Southern Upper PA	Main Warehouse Liquids Storage Facility
4	Intake/Discharge Areas	Discharge Structure. In addition, the following structures could be retained or removed: Intake Access Facility Divers Shower/Lab Facility Intake Control Building Intake Maintenance Shop Underground Sewage Holding Tank/Lift Station Chemical Storage Tanks and Pad
5	Lower Parking Lots and Training Bldg. Area	Telephone Terminal Building Meteorological Tower No. 1 and Building Training Building Maintenance Shop Building Maintenance Shop Annex Building Fitness for Duty/Access Building Steam Generator Mock-up Building
6	Upper Parking Lots	Gas Cylinder Enclosure Storage Buildings Modular Office Buildings Toilet Facilities
7	Area 10	Sandblasting and Spray Paint Facility Turbine Generator and Rotor Equipment Warehouse Hazardous Waste Facility Seawater Reverse Osmosis (SWRO) Facility Fabrication Shop Sewage Treatment Plant Fire Water Tank and Pumphouse Modular Office Buildings
8	Shooting Range and Southern Areas	Fire Department and Fukushima Flexible and Diverse Coping Strategy (FLEX) Equipment Storage Security Training Tower Security Training Building Soils Lab Secondary Meteorological Tower and Control Building Miscellaneous Office and Storage Buildings
9	Hillside Behind Plant	Site Overlook Facility
10	Reservoir Area	Wastewater Holding and Treatment Equipment Enclosure Long Term Cooling Water Pump Storage Building
11	Switchyard Area	Secondary FLEX Equipment Storage Facility Miscellaneous Storage Yard Facilities and Office Buildings

Table 2-3. Zone Listing and Existing Major Structures

Zone	General Area	Existing Major Structures in Zone
12	East Canyon Area	Vehicle Maintenance Shop and Offices OSGSF Document and Project Files Storage Buildings Miscellaneous Break Room and Toilet Facilities
13	Remainder of site	Avila Gate Guard House Facilities Underground Septic Tanks and Pump Stations Above Ground Water Storage Tanks Water Wells Security Structures Circulating Water Tunnels

Source: PG&E, 2021c – Table 2.3.9-2.

Acronyms: FLEX = Fire Department and Fukushima Flexible and Diverse Coping Strategy, I&C = Instrumentation and Controls, OSGSF = Old Steam Generator Storage Facility, RCA = Radiologically Controlled Area, SWRO = Seawater Reverse Osmosis

Building demolition would use an approach that removes selected contaminated systems and components from each structure prior to demolition; identified systems would be removed during the System and Area Closure scope of work (see Section 2.3.5) prior to demolishing a structure, and specifically identified large components would be removed during the Large Component Removal scope of work (see Section 2.3.11) prior to demolishing a structure. Other systems and large components would remain in their present locations and would be removed and downsized for disposal purposes during the demolition of the associated building.

The following activities would be performed to prepare each structure for demolition:

- A pre-demolition engineering report would be prepared, as required by 29 CFR 1926.850(a).
- Decontamination of the structure would be completed pursuant to the decontamination procedures outlined in Section 2.3.8. Fixative coatings would be applied where required to prevent the spread of any loose contamination.
- Hazardous and regulated materials would be removed.
- If required by the work plans, a dust suppression system such as a “water mister” or other similar technology and supporting high-efficiency particulate air (HEPA) filters would be installed, along with required temporary power and water supplies.
- Remaining equipment, piping, components, etc., would be drained, purged, and air gapped (i.e., a common construction technique to prevent backflow).

Regarding the use of water for dust suppression, any runoff would be captured by a groundwater collection and treatment system (GWTS) prior to release. The GWTS would be developed in the early stages of decommissioning, sized in accordance with the results of the SCS, and located on a previously disturbed area (PG&E, 2021e – PD-14). The GWTS would collect and process water accumulated in open excavations from direct rainfall and groundwater intrusion utilizing a combination of settling ponds and tanks or filtration equipment. Treated water would be discharged according to allowable discharge concentrations according to the Central Coast Regional Water Quality Control Board. Additionally, PG&E would obtain a Construction Stormwater General

Permit (CGP) and prepare a Stormwater Pollution Prevention Plan (SWPPP) prior to start of construction activities to address the requirements for control of fugitive dust emissions from the DCPP site. (PG&E, 2021d – PD-7)

Building demolition would be accomplished through industrial demolition means and methods, including the use of demolition tools attached to track mounted backhoes, articulated wheel loaders, and small-scale tool carriers. Demolition tools include hydraulic hoe-rams, hydraulic shears, concrete pulverizers, universal processors, various grapples, trucks, and other such industrial tools. The use of explosives is not a primary demolition method; however, some targeted applications are planned as an option for the containment structure demolition.

Throughout building demolition activities, equipment and personnel are monitored for radioactive contamination prior to release or exit from a contaminated area. Contaminated equipment must be cleaned of all radioactive contamination and proven clean by survey prior to release. If a piece of equipment cannot meet the criteria for release, the equipment would be disposed of as radioactive waste (PG&E, 2021d – PD-9).

In keeping with efficient demolition work practices and good housekeeping objectives, demolition debris would be moved away from the active demolition area in a safe and expeditious manner to reduce interferences. For example, concrete that is to be reused as fill would be transferred to the south end of Parking Lot 7 for processing (see Figure 2-8), utilizing specialized concrete crushing equipment (PG&E, 2021d – PD-8). Once moved away from the active demolition area, the demolition debris would be segregated by materials (e.g., structural steel, pipe, general debris, etc.) to the greatest extent practicable and then loaded onto a transport vehicle and moved to the waste processing area for further dispositioning (i.e., act of disposing an asset).

When the demolition phase of a given structure is completed, the area would be turned over for Final Site Restoration (FSR), including FSS (see Section 2.3.22), backfilling, and landscaping activities.

The sections that follow discuss the anticipated approach for the demolition activities that would be performed for the Power Block facilities (i.e., the containment, auxiliary/fuel handling, turbine buildings, and pipeway structures), and for the remainder of the structures listed in Table 2-4. See Sections 2.3.16 for a specific discussion on the Discharge Structure demolition.

2.3.9.1 Unit 1 and Unit 2 Containment Structures

The containment structure for each unit is a steel-lined, reinforced concrete building of cylindrical shape with a dome roof that completely encloses the reactor pressure vessel (RPV) and reactor coolant system; it contains various internal structural elements that support these systems. The containment structures for Units 1 and 2 are essentially identical but are mirror images. The following discussion applies to both units.

The containment structure removal sequence would occur in the following major steps:

- interior demolition (including the polar crane)
- liner plate decontamination
- exterior concrete shell removal
- base slab foundation removal

After the foundation is removed, building demolition would be completed, and the area would be turned over for FSR, including FSS (see Section 2.3.22), backfilling, and landscaping activities.

To protect the SNF located in the nearby SFPs, demolition of the containment structure exterior shell would not start until all SNF and GTCC waste generated from RPV and RPV internals segmentation have been relocated to the ISFSI and GTCC Waste Storage Facility, respectively.

Before interior concrete can be released for demolition, the following activities would be completed:

- RPV and internals segmentation would be completed, and all waste materials and tooling would be removed from containment (see Section 2.3.10 for details).
- Large components: The SGs, pressurizer, reactor coolant pumps (RCPs) and motors, RPV head, and manipulator cranes would be removed from containment. The containment opening at the 140-foot level that was created to remove these components and the associated closure doors would still be in place (see Section 2.3.11 for details).
- System and Area Closure: Systems containing radioactive materials above a certain threshold level would be removed from containment (see Section 2.3.5 for details).

The following additional activities would be performed to prepare the containment structures for demolition:

- A second containment opening would be provided at elevation 91 feet. A temporary ramp would be provided to access materials and equipment at the local grade (elevation 85 feet).
- Characterization of containment would be performed. The extent of any radiologically contaminated concrete cannot be fully known until after removal of the RPV. It is assumed that only the concrete of the bio-shield wall in the areas directly adjacent to reactor fuel elements is contaminated.

Some systems and components not identified above would remain in the containment structure and would be demolished with the structure. The different waste components would be separated after demolition and transferred to a predetermined location for packaging and disposal.

Interior Demolition

One or more excavators with appropriately sized hydraulic hoe-ram and hydraulic shear attachments would be used inside the containment buildings to demolish the polar crane, interior concrete walls and slabs, and the annulus steel structure down to the foundation level at elevation 91 feet. Loaders would be used to move the demolition debris out of the structure through the lower construction opening at ground level. The top portion of the foundation (approximately 2-feet thick) would be removed to expose the lower portion of the liner plate that is embedded in the foundation. All material would then be transferred to the Waste Handling Facility (see Figure 2-8 – BLDG 115) for processing and disposal.

During the removal of the interior structures and components, the exterior shell would be utilized as a ventilation boundary to prevent the release of any radiological contamination.

Liner Plate Decontamination

The liner plate would be left in place after interior concrete demolition. The liner plate would be decontaminated, then it would be demolished at the same time as the exterior concrete shell and disposed of as non-detectable (i.e., below detectible limits) demolition debris.

Exterior Concrete Shell Removal

The demolition of the containment exterior shell would most likely be carried out by using excavators fitted with hoe-rams and shears. These machines would utilize a sequence that removes a small section from the bottom of the structure at a time, allowing the structure to fall vertically in a controlled manner. This sequence would be repeated until all the cylindrical sections of the containment structure have been removed and only the top dome section remains, which has been lowered to grade level. The dome would be demolished in place by conventional excavator-mounted equipment.

Alternatively, PG&E may elect to demolish the exterior concrete shell of containment by use of explosives. This method would consist of the following steps:

- Create large openings in the structure in the form of archways using hydraulic hammers mounted on excavators. This also includes cutting away the liner in these locations.
- Attach explosive charges to the "legs" left through the creation of the archways. Using a controlled explosion, the legs disintegrate and the upper part of the structure, essentially the hemispherical shaped dome, falls to grade level.
- Utilize excavator mounted hoe-rams to rubblize the remainder of the structure.

All debris would be transferred to the Waste Handling Facility (see Figure 2-8 – BLDG 115) for processing and disposal.

Foundation Removal

The entire foundation of each containment building would be removed using similar excavator equipment in a top-down approach. At a point in the demolition sequence, excavation of the perimeter soil would be required to access the lower elevations. The ground adjacent to these lower elevations would be sloped or benched in accordance with standard construction criteria (from California Division of Occupational Safety and Health or CalOSHA) to prevent excavation instability. Ramps would be excavated in strategic locations so that demolition and debris removal equipment (e.g., excavators and dump trucks) can access this area. All debris would be transferred to the waste processing areas for disposal.

At this point, the building demolition scope of work for the containment structures would be completed.

2.3.9.2 Unit 1 and Unit 2 Pipeway Structures

The pipeway structure for each unit is a steel frame structure attached to the outside of the containment shell, the auxiliary building, and the turbine building. The pipeway structure in one unit is essentially a mirror image of the other.

Each pipeway structure would be demolished on a column bay by column bay basis (e.g., demolish everything between column line A to column line B, column line B to column line C, etc.). This allows for structural stability as the demolition work progresses. Typical backhoes with steel shear attachments would be used for this demolition.

2.3.9.3 Unit 1 and 2 Auxiliary Building

In general, there is substantially more structural concrete in the auxiliary building than there is structural steel. Therefore, the demolition of the auxiliary building would mainly utilize concrete specialty demolition tools such as hoe-rams, concrete pulverizers, and concrete processors. Structural steel specialty demolition tools like hydraulic shears would be utilized less.

Multiple excavators fitted with the appropriate demolition tools and extended reach booms would be utilized to demolish the auxiliary building from its topmost elevation down to the bottom of the building at elevation 60 feet. The resulting debris would be moved out of the area and segregated by materials (e.g., structural steel, concrete rubble, general debris, etc.) to the greatest extent practicable and then loaded onto a transport vehicle and moved to the waste processing area for further dispositioning.

As demolition progresses, larger systems or components would be cut into smaller sized pieces for handling, either by using a hydraulic shear attachment on a backhoe or by thermally cutting.

The end state of the walls and slabs below grade would be as follows:

- remove internal walls and slabs below local grade to the top of the base slab (i.e., to the bottom-most foundation slab)
- remove the first 3 feet of all exterior foundation walls to an elevation 3 feet below local grade

At this point, demolition of the auxiliary building would be considered complete, and the area would be turned over for FSR, including FSS (see Section 2.3.22), backfilling, and landscaping activities.

2.3.9.4 Unit 1 and 2 Turbine Building

The turbine building removal sequence would occur in the following major steps:

- remove and demolish the overhead crane and steel superstructure above 140-foot elevation
- demolish main turbine building
- partially remove the foundation

Prior to any demolition occurring on the turbine building, the siding would be removed during the Decontamination scope of work (see Section 2.3.8).

All systems and components not removed by the System and Area Closure and Large Component Removal scopes of work would remain in the turbine building and would be demolished with the structure.

The different waste components would be separated after demolition and transferred to a predetermined location for packaging and disposal.

The overhead cranes would be demolished first, followed by the portion of the turbine building situated above the elevation 140-foot operating deck of the building. The resulting material would be size-reduced utilizing excavators fitted with appropriate demolition hydraulic shears and the resulting debris separated and moved to the waste processing area for further processing and packaging for disposal.

The building's demolition would advance on a column bay by column bay basis (e.g., demolish everything between column line A to column line B, column line B to column line C, etc.). As the demolition progresses, larger systems or components would be cut into smaller sized pieces for handling, either by using a hydraulic shear attachment on a backhoe or by thermally cutting.

Once removed from the active demolition area, the demolition debris would be segregated by materials (e.g., structural steel, concrete rubble, general debris, etc.) to the greatest extent practicable and then loaded onto a transport vehicle and moved to the waste processing area for further dispositioning.

The concrete turbine pedestals would remain in place until the entire turbine building steel superstructure has been demolished. Multiple excavators fitted with the appropriate demolition tools and extended reach booms would be utilized to demolish the turbine pedestals from their topmost elevation down to the floor situated at elevation 85 feet.

The end state of the walls and slabs below grade would be as follows:

- remove internal walls and slabs below local grade to the top of the base slab (e.g., to the bottom-most foundation slab)
- remove the first 3 feet of all exterior foundation walls to an elevation 3 feet below local grade.

The demolition of the turbine building would continue until the only items that remain are its perimeter walls and its lowermost floor slab. The area would be turned over for FSR, including FSS (see Section 2.3.22), backfilling, and landscaping activities.

2.3.9.5 Other Structures

As stated previously, building demolition of all other structures would be accomplished through industrial demolition means and methods, including the use of demolition tools attached to excavators or backhoes, articulated wheel loaders or typical dump trucks, and small-scale tool carriers. In general, structures would be demolished in a top-down manner, and the resultant debris moved to the waste processing area for further dispositioning.

All above grade portions of structures would be removed, as well as the foundations to a minimum depth of 3 feet below local grade. Below grade pull boxes and tanks and other retaining structures would either be completely removed or removed to a minimum depth of 3 feet below grade and the remainder filled with suitable backfill material to remove below grade voids.

The scope of work associated with building demolition for the circulating water tunnels is limited to the installation of structural bulkheads at each end of all the intake and discharge tunnels. These bulkheads would seal the ends of the tunnels. Localized roof sections of the circulating water tunnels would be removed for access, then the tunnels would be backfilled with soil/crushed concrete later by the grading and fill operations discussed in Section 2.3.16 and left in place. These tunnels are deeper than 3 feet below local grade.

2.3.10 Reactor Pressure Vessel and Internals Removal and Disposal

Reactor Pressure Vessel (RPV) and internals removal and disposal would consist of all activities necessary to remove the RPVs and internals from the DCPP containment buildings. The removal of the RPVs and internals would be accomplished by a combination of (1) in-place segmentation and dismantling of the radioactive components, (2) packaging the segmented waste in various containers designed to meet applicable NRC and US Department of Transportation requirements, and (3) depending on waste classification, transporting the loaded packages to either an on-site storage location, or to off-site waste disposal facilities licensed to accept radioactive waste.

One of the largest items to be removed during nuclear decommissioning is the RPV, which is a massive vertically mounted cylindrical pressure vessel that is 42.3-feet-tall, with a 173-inch internal diameter, and weighs approximately 674,000 pounds. Inside the RPV are two structures, referred to as the internals, consisting of the lower internals assembly and the upper internals assembly. The lower internals for Unit 1 weigh approximately 325,000 pounds and weigh approximately 270,000 pounds for Unit 2, and the upper internals for each unit weigh approximately 142,000 pounds. These structures function to support the reactor core and maintain alignment of the nuclear fuel assemblies, direct coolant flow past the fuel assemblies to remove heat, and to shield the RPV from the effects of gamma and neutron radiation generated during operation.

Due to being in close proximity to the nuclear fuel, the RPVs and internals have become highly radioactive; the radionuclide concentrations estimated to be present at DCPP shutdown would result in extremely high levels of radiation emanating from the materials. To ensure the amount of Class B and Class C radioactive waste is minimized, the RPVs and internals would be disassembled and segmented into smaller pieces to allow segregation of the materials by radioactive waste classification. The high levels of radiation coming from the RPV and internals requires the use of specially designed equipment for all aspects of the decommissioning process, including segmentation, handling, packaging, and shipment of these materials to licensed waste disposal facilities. Segmentation and dismantling of the internals components are primarily performed underwater to provide both shielding from the radiation and prevention of airborne contamination. The process of segmenting and dismantling the internals components is highly complex and is often accomplished using numerous cutting technologies. To complete the specialized task of segmenting the RPV internals, robust mechanical cutting equipment (e.g., saws, drills, shears, etc.) capable of remote operation and designed specifically for supporting, handling, and dismantling the massive components would be employed.

The mechanical cutting equipment used for segmentation of the DCPP internals components would be of similar design and technology to that used during the most recent RPV internals segmentation project at Zion Nuclear Station Units 1 and 2, and that which is planned to be used for segmentation of the San Onofre Nuclear Generating Station (SONGS) Units 2 and 3 internals.

Like the internals components, the RPVs have become highly radioactive, making the process of segmenting the RPVs challenging. However, the total radionuclide concentrations estimated to be present within the RPVs is substantially less than that present in the internals components, therefore allowing the segmentation of the RPVs to occur in a dry condition without the need for water shielding. The RPVs would be segmented into multiple large pieces using a thermal cutting technology similar to that used for the most recent segmentation of the RPVs at Zion Nuclear

Station Units 1 and 2 and that which is planned to be used for segmentation of the RPVs at SONGS Units 2 and 3. Thermal cutting, or thermal segmentation refers to the technique of cutting without making direct contact using a high-energy process. Unlike the mechanical cutting process used for segmenting the internals, the thermal cutting process uses a heat source to melt or weaken the RPV material to enable separating manageable segments from the massive RPV.

Segmentation of the RPV would be executed in the reactor cavity using the thermal cutting equipment after the connecting reactor coolant system loop piping has been separated from the RPV. Prior to commencement of segmentation, a shielded platform would be installed to shield personnel from radiation, mount and carry the thermal cutting system, provide a ventilation enclosure to avoid spreading airborne contamination into the containment building, and to serve as a working platform for preparation of tools for cutting processes. Additionally, a specially designed lift fixture would be installed on the floor above the reactor cavity to lift and support the RPV during thermal cutting operations. With the segmentation system and all ancillaries installed, thermal cutting would commence by cutting from the outside of the RPV inward. The thermal cutting process would volatilize surface layers of the material being cut and disperse fine particles, off-gas, fumes, and smoke in the vicinity of the cutting operation. Therefore, standard measures to mitigate airborne material would be implemented, including employing local, HEPA filtered ventilation to collect and filter the particles, fumes, and smoke prior to the off gas being directed to the main containment ventilation discharge plenum (the plenum is an air-distribution box attached directly to the supply outlet of the HVAC equipment). As individual segments are removed from the RPVs, they would be packaged in designated waste containers, which would be readied for either temporary on-site storage at the waste storage facility or immediate shipment once the container has been loaded with all assigned contents.

At the conclusion of RPV segmentation activities, equipment used during cutting operations, including the primary cutting system, cutting debris, ventilation and filtration equipment, and miscellaneous support equipment, would be packaged for disposal, and non-contaminated equipment, materials and supplies would be surveyed for release and removed from site as part of demobilization activities.

Depending upon the waste classification of the containers that have been loaded with radioactive waste, some of the loaded waste packages would be immediately transported off site to designated radioactive waste disposal facilities using shipping containers licensed either as shielded Type A boxes and shipping casks, or as Type B shipping casks. Some segmentation waste may require on-site storage prior to disposal anywhere from one week to one year due to unexpected delays in transportation logistics (PG&E, 2021d – PD-10). These waste packages, which would include Class A, B and C waste, may be stored in facilities currently used for storage of materials including but not limited to the existing Old Steam Generator Storage Facility (OSGSF) and other existing on-site buildings located inside and outside of the RCA (PG&E, 2021e – PD-15). Storage would be for varying durations until such time that delays encountered during the transportation cycle have been resolved. The materials classified as GTCC waste, would be loaded into storage containers and casks, and transferred to the (proposed) on-site GTCC Waste Storage Facility for storage, remaining there until a licensed repository becomes available, another entity takes possession, or the US Department of Energy (DOE) accepts the containers for off-site disposal.

Waste transport off site would include truck transportation for some Class A waste containers (e.g., intermodals, shielded boxes, 14-195 casks), with the large-capacity Class A, B, and C waste containers transported in licensed Type B shipping casks via permitted routing from DCPP to the SMVR-SB facility where they would be loaded by crane onto railcars for transport to the designated waste disposal facility or directly trucked to the designated waste disposal facility. Transportation of the large Type B shipping casks from DCPP to the SMVR-SB site or directly trucked out of state for disposal would be accomplished using California-compliant specialty heavy-haul transport vehicles capable of handling the oversize/overweight loads (see Figure 2-13). See also Section 2.3.19.

Figure 2-13. Specialty Heavy-Haul Transport Vehicle

Source: PG&E, 2021a – Figure 2.3.12-1.

Examples of the Class A and Class B/C waste packages are presented in Figures 2-14 and 2-15.

Figure 2-14. Example of Class A Waste Package

Figure 2-15. Example of Class B/C Waste Package

2.3.11 Large Component Removal

Large components that would be removed as part of the Project have been divided into three categories with a corresponding means and methods process for each. These categories are discussed in this section.

2.3.11.1 Category 1 – Radiologically Contaminated Large Components

Category 1 consists of radiologically contaminated large components including the SGs, RCP assemblies, pressurizers, and RPV closure heads housed within the containment buildings. Category 1 also includes the legacy SGs and RPV closure heads presently stored in the OSGSF.

Each containment building would be modified to include a construction opening called the containment access opening. The removal of large radioactive components and the RPVs from each containment building would begin by increasing the size of the building's access opening (e.g., by enlarging the existing equipment hatch or creating a new opening). A larger opening would simplify rigging operations required to install disassembly equipment and remove large components. Likely steps to create a larger or new opening include: (1) removing the existing equipment hatch; (2) using abrasive cutting or other mechanical equipment to remove sections of the containment building reinforced concrete walls; and (3) installing a temporary door for environmental controls when the opening is not being used.

Each containment building at DCPP contains the following Category 1 large components, as detailed below.

Four SGs mounted in a vertical position, standing about 68-feet-tall and weighing about 350 tons each. Structural supports and attached piping would be removed from each SG using disassembly methods such as mechanical or thermal cutting. Each SG would be lifted and rotated to a horizontal position, placed on a transport vehicle, and transported to an area that is set up for segmentation into two pieces. The segmentation area would be located at the OSGSF where the legacy SGs would also be segmented. Before shipping each piece, cover plates would be installed over all openings, then a protective (lockdown) coating would be applied to affix any possible surface contamination before the pieces are placed on a special over-the-road transporter. The pieces would be shipped as low-level radioactive waste (LLRW) to a licensed disposal facility.

One pressurizer, mounted in a vertical position, standing about 53-feet-tall and weighing about 112 tons. Structural supports and attached piping would be removed from the pressurizer using disassembly methods such as mechanical or thermal cutting. The pressurizer would be lifted and rotated to a horizontal position, placed on a transport vehicle, and transported to an area to prepare the pressurizer for shipment. Before shipping, cover plates would be installed over all openings, then a protective (lockdown) coating would be applied to affix any possible surface contamination before the pieces are placed on a special over-the-road transporter. The pressurizers would be shipped as LLRW to a licensed disposal facility.

Four RCP/motor assemblies mounted in a vertical position, each about 45-feet-tall and weighing about 99 tons. The motors would be separated from the RCPs, removed from containment, and prepared for transportation. The RCPs would be removed by having their structural supports and attached piping removed using disassembly methods such as mechanical or thermal cutting.

The RCPs would be rigged from containment and prepared for shipment. The RCPs would either be sealed or loaded in shipping containers. The motors/RCPs would be shipped by truck as LLRW to a licensed disposal facility.

One RPV closure head with an integrated service structure assembly weighing 185 tons. The integrated service structure would be removed and segmented into smaller pieces by mechanical or thermal methods. The smaller pieces would be loaded into standard low-activity waste shipping containers for shipment as LLRW to a licensed disposal facility. The RPV closure head weighing about 97 tons would be removed from containment and prepared for shipment. The RPV closure head would be painted with a protective (lockdown) coating to affix any possible surface contamination before being placed in a special container for shipment. The RPV closure head and service structure would be shipped by truck as LLRW to a licensed disposal facility.

One manipulator crane, a gantry type crane with a span of 27 feet and weighing 9.5 tons. The manipulator crane would be segmented in place by using mechanical or thermal methods into pieces that would fit into standard low-activity waste shipping containers. The shipping containers would be trucked as LLRW to a licensed disposal facility.

The OSGSF at DCPP contains the following Category 1 large components:

Eight SGs stored on saddles in the horizontal position. Each SG weighs about 330 tons and would be moved out of the storage facility using special lift systems. Each SG would be moved to the segmentation area at the OSGSF where they would be cut into two pieces. Before shipping each piece, cover plates would be installed over all openings, then a protective (lockdown) coating would be applied to affix any possible surface contamination before the pieces are placed on a special over-the-road transporter. The pieces would be shipped as LLRW to a licensed disposal facility.

Two RPV closure heads mounted within a cradle and weighing about 90 tons each. Each head would be moved out of the storage facility and prepared for shipment. The RPV closure head would be painted with a protective (lockdown) coating to affix any possible surface contamination before being placed in a special container for shipment. The RPV closure head and service structure would be shipped by truck as LLRW to a licensed disposal facility.

2.3.11.2 Category 2 – Turbine Buildings Large Components

Category 2 large components are all housed within the turbine buildings and are associated with the secondary steam side of the plant's operations except for the emergency diesel generators. These large components cannot be demolished at the same point in time that the turbine building is being demolished because they cannot be removed in a safe and efficient manner by the same conventional and planned demolition methodologies planned for the turbine buildings. These Category 2 large components would be segmented (either mechanically or thermally) in place prior to removal from the turbine buildings.

Category 2 large components situated in the turbine buildings consist of the following items: main exciters and generators, high pressure turbine assemblies, low pressure turbine assemblies, main condensers, moisture separator re-heaters, #2 feedwater heaters, and the emergency diesel generators. These large components would be segmented either by mechanical or thermal

methods in situ into "manageable" sized pieces that would be removed from the turbine buildings and transitioned to a laydown area for further downsizing and processing. The prepared ferrous metal would be recycled outside of the State of California.

2.3.11.3 Category 3 – All Other Large Components

Category 3 large components are all the large components that are not designated as being either Category 1 or Category 2. The Category 3 large components would be demolished and downsized in the same timeframe when the structure or building housing the Category 3 large components is being demolished, downsized, and prepared for disposal.

2.3.12 Utilities, Remaining Structures, Roads, and Parking Areas Demolition

In addition to the various buildings that would be demolished, as described in Section 2.3.9, various utilities, structures, roads, and parking areas that are not required to support the long-term operation of the ISFSI or the 230 kV/500 kV switchyards or towers would be demolished, as listed in Table 2-4. The majority of these would be removed during Phase 2; however, some would be removed during Phase 1.

Specific demolition items include:

- above ground and underground utilities
- various structures (refer to Table 2-4)
- miscellaneous storage areas, laydown yards, etc., and the contents of these yards, including trailers and equipment (refer to Table 2-4)
- support areas (sidewalks, retaining walls, hardscape slope protection, etc.)
- paved roads and parking areas
- road and parking area curbs and barriers
- fences
- Avila Gate Guard House Facilities at Avila Beach Drive/Diablo Canyon Road (removed when area released from the NRC Part 50 operating licenses)
- 230 kV transmission lines and support poles between the Power Block and the 230 kV switchyard (see Section 2.3.13)
- 500 kV transmission lines and support towers between the Power Block and the 500 kV switchyard (see Section 2.3.13).

Table 2-4. List of Other Demolition

Zone	Zone Description	Bldg. No.	Name	Building Construction	Qty	Notes
1	Power Block, North half of PA West RCA		Laydown Yard Contents	Varies	>50	Containers, equipment, and supplies
1			Guard Towers	Steel	5	
1			500 kV Transformers	Steel/Copper	12	
1			230 kV Transformers	Steel/Copper	3	
2	South Half of Plant PA		Trailers around Building 116	Varies	~ 20	
2			Laydown Yard Contents	Varies	Many	Equipment and supplies

Table 2-4. List of Other Demolition

Zone	Zone Description	Bldg. No.	Name	Building Construction	Qty	Notes
3	Main Warehouse Area		Laydown Areas	Varies	>20	Containers, equipment, and supplies
4	Intake and Discharge Structures Area		Laydown Areas	Varies	>10	Containers, equipment, and supplies
4			Observation Stand	Varies	1	
4			Bins	Steel	~ 20	
5	Lots 4, 5 and Training Area		Trailers	Varies	~5	
5		107	Meteorological Building for Tower 1	Steel	1	
5			Met Tower 1	Steel	1	
6	Lots 7 and 8		Stairways Between Lots 7 and 8	Concrete	2	
7	Area 10		Laydown Yard Contents	Varies	Many	Containers, equipment, and supplies
7			Exterior Stairs	Wood	1	To shoreline
8	Firing Range, Warehouse B, Lot 1		Support Containers	Varies	~10	Containers, equipment, and supplies
8		501	Meteorological Building for Tower 2	Steel	1	
8			Meteorological Tower 2	Steel	1	
8			Gasoline Tanks	Steel	3	

Source: PG&E, 2021a – Table 2.3.14-3.
Acronyms: kV = kilovolt, PA = Protected Area, RCA = Radiologically Controlled Area

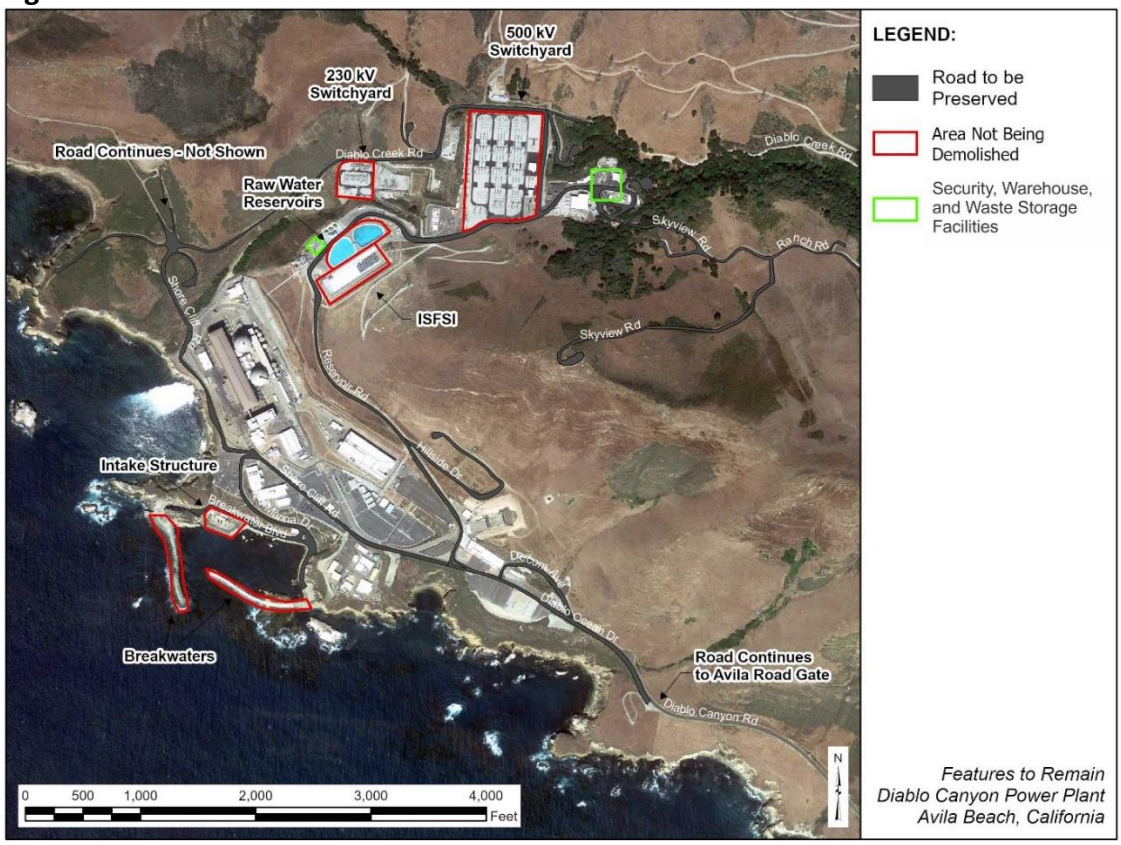
Retained facilities are shown in Figure 2-16 and include the following:

- Primary and Secondary Access Roads – provides access to the DCPP site and serves as a secondary emergency access route for Port San Luis and Avila Beach, if authorized by County emergency agencies[7]
- Internal Roads, including culverted road over Diablo Creek – provides access to DCPP site and serves as secondary emergency access route for Port San Luis and Avila Beach, if necessary
- Skyview Road – provides scenic overlook; upgrade to improve deteriorated pavement and drainage features, including slope repairs at the drainage that crosses the road where a deep gulley with a small landslide has formed (PG&E, 2023e)
- 230 kV and 500–kV Switchyards - needed to meet existing customer needs
- ISFSI – required for long-term storage of SNF

[7] The Secondary Access Road (North Ranch/Pecho Valley Road) is not a County/Cal Fire official evacuation road since it does not meet the standards specified in the County Fire/ Cal Fire SRA Fire Safe Regulations, 14 CCR Division 1.5, Chapter 7 Fire Protection, Subchapter 2, Articles 1-5.

- East and West Breakwaters (and Intake Cove/Marina) – available for reuse by a third party
- Intake Structure – available for potential reuse by PG&E to support barging operations during future/final decommissioning and by a third party
- Water Reservoirs – for use as a firewater supply for protection of the ISFSI.

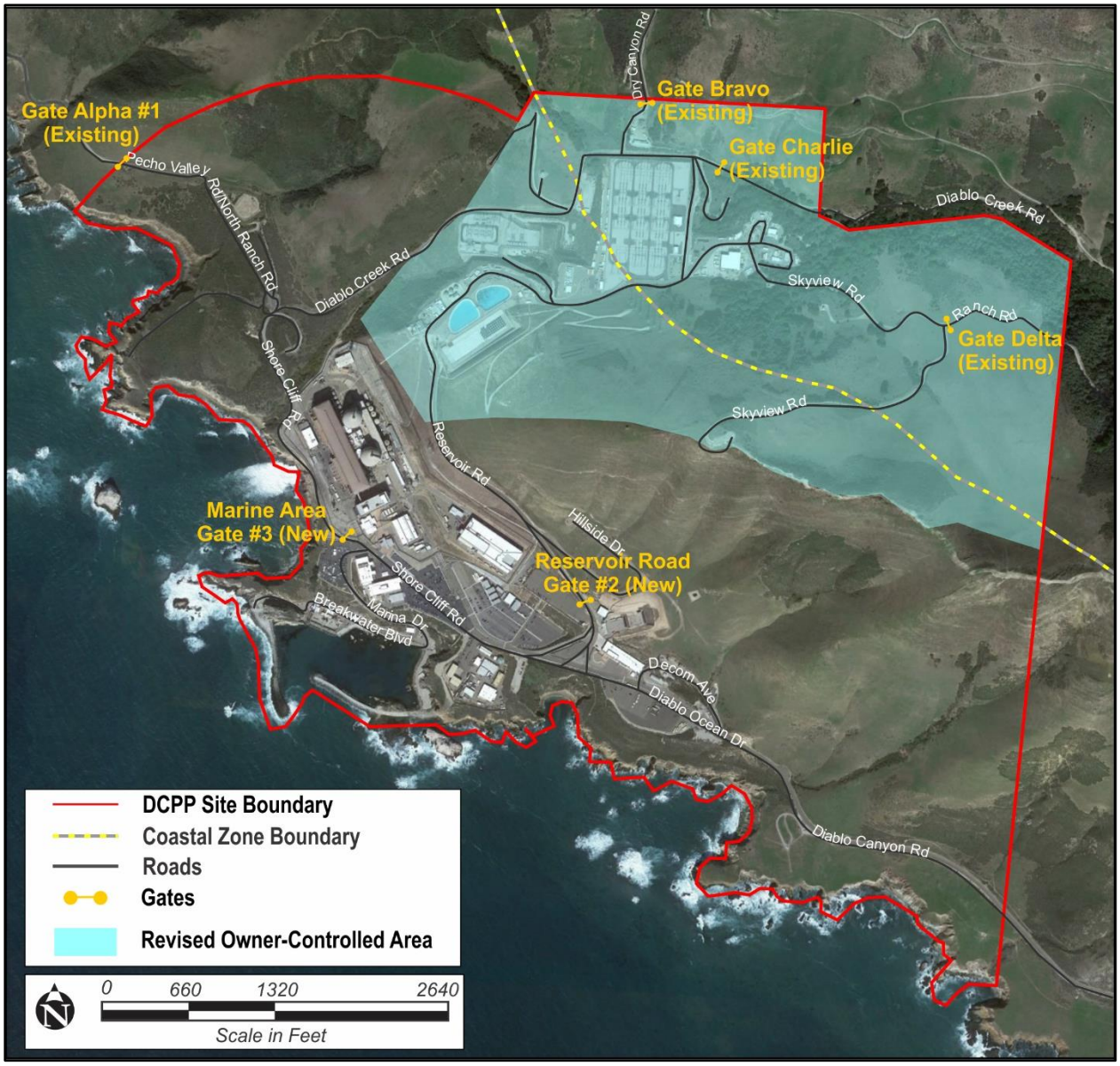
Figure 2-16. Retained Facilities



Source: PG&E, 2021a – Figure 2.3.14-1; modified to include Skyview Road overlook.

The structures remaining on site following decommissioning would continue to be managed by PG&E. The existing OCA would be reduced to encompass the water reservoirs, switchyards, ISFSI, new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and outbuilding (see Figure 2-17). The limits of future PAs and Radiologically Controlled Areas have not yet been developed (PG&E, 2021e – PD-4). As previously noted, activities at the DCPP site would be limited to ISFSI and GTCC Waste Storage Facility operations until an off-site interim storage facility or permanent repository becomes available.

Figure 2-17. Revised Owner-Controlled Area



Source: PG&E, 2021e – PD-4/Appendix C; PG&E, 2023d; PG&E, 2023e.

2.3.12.1 Utilities

Underground utilities are present at varying depths (as shallow as 1 foot below grade) throughout the DCPP site. The depth depends on the types of utilities, their design minimum depth requirements, surface topography, and presence/absence of improvements (e.g., slabs, roads, buildings) directly over the utility runs. Utilities not required to remain in service for decommissioning activities or for long-term operation of the ISFSI or 230 kV/500 kV switchyards would be removed during decommissioning, including those utility lines servicing buildings to be removed during building demolition. Initial utility removal efforts would be sequenced with demolition activities, as follows:

- Utilities that served demolished buildings would be verified to be inactive and air gaps confirmed.

- Each building or feature to be demolished would be isolated from all its utilities prior to its demolition. Isolation consists of de-energizing the utility line, and then removing a portion of the utility line to create a physical air gap.
- Following isolation of aboveground electrical power, the power cables, transformers, and poles may be removed before or after the demolition of each individual building, at the discretion of the demolition contractor.
- The aboveground power cables, appurtenant fixtures, and equipment would be removed, processed on site as scrap, or disposed of offsite.

Underground utility removal would involve electrical lines, the lines of various water systems, sanitary sewer, communications, and security network. Removal of storm sewers would be addressed under Phase 2 of decommissioning.

All underground utilities would be addressed as follows:

- Utilities would be excavated and removed to a minimum depth of 3 feet below grade. Excavation deeper than 3 feet is at the discretion of the demolition contractor if deeper excavation is deemed less complicated and/or less costly than cutting off a utility at the 3-foot depth.
- Wires and cables would be pulled from conduits and processed for scrap.
- Removed metal piping or conduit would be processed for scrap.
- Removed plastic piping, conduit, pull-boxes, and similar items would be processed for scrap or disposed of offsite as waste.
- All asbestos pipes would be removed, regardless of depth, and disposed of offsite.
- Concrete pipes and spillways would be removed and evaluated for off-site disposal or reuse.

Utility features left in place (i.e., deeper than 3 feet below grade) would be permanently abandoned in place rather than being removed, as follows:

- Remaining pipe-like voids (pipes, conduits) would be pressure grouted.
- Remaining parts of large boxes, vaults, manholes, utility chases, tunnels, and similar objects would be broken open as necessary and filled with borrow fill material or non-shrink grout at the discretion of the demolition contractor.

All utility removal work (not including the overhead transmission lines and towers) can be performed with conventional mid-sized construction/demolition equipment. Specialty equipment is not necessary for this work.

2.3.12.2 Remaining Structures

The remaining buildings and key site structures to be demolished are shown in Figure 2-16. The demolition/removal of buildings and structures applies to relatively small buildings and would include concrete slabs and any foundation/basement features to a depth of 3 feet below grade. Remaining foundation elements such as piers or footers may be removed at the discretion of the demolition contractor if removal is easier than the effort of cutting off the elements at the 3-foot depth (see Section 2.3.9, *Building Demolition*, for explanation regarding 3-foot removal depth as specified by NRC regulation). Any remaining “bathtub” basement or vault that could hold

rainwater would be broken up to promote drainage, and remaining voids would be filled with fill material prior to additional grading/fill operations.

The structures would be demolished using a combination of standard demolition equipment and methods, including excavators with hydraulic breaker/pulverizer, shear, thumb, and bucket attachments, front-end loaders, skid steers, torches, and concrete saws.

The structures would be visually observed for potential signs of structural failure. Should any structural concerns be identified during the survey, demolition sequencing and/or methods may need to be adjusted as needed to complete the demolition in a safe manner. The structures would also be visually observed to confirm that all regulated materials identified in/at the structures by the hazardous material surveys have already been abated/removed and that the structures are ready for open-air demolition.

In addition, the proposed demolition perimeter and immediate surrounding areas would be visually observed for potential changes in topographic configuration and associated storm water flow patterns. Should such changes be identified, the layout and/or type of storm water sedimentation/erosion measures specified in a SWPPP may need to be modified as needed to minimize the potential for releasing demolition-related materials beyond the demolition limits.

Demolition debris of any small buildings and objects in lay-down areas would be removed with small-tracked equipment and skid steers and transported to the main processing area by articulated dump trucks. This methodology would minimize disturbance to the remote areas.

2.3.12.3 Roads

The scheduling and sequencing of any roadway removals would be dependent on the overall phasing and sequencing of the entire Project. In other words, the removals would have to be coordinated with any necessary access to adjacent buildings, the scheduled building demolitions, and the intended earthwork grading and drainage work.

The demolition of the roadways would involve the removal of only the asphaltic concrete (surface) course or layer and any asphalt or cement concrete curbs. The aggregate subbase and base course would be left in place for incorporation into the grading work.

Asphalt removal would involve stripping the asphalt and recycling. The limited amount of cement concrete removed as part of road removals could be set aside for crushing and/or reuse. The road removal work would be performed with conventional excavation equipment.

2.3.12.4 Parking Areas, Concrete Areas, and Sidewalks

Like road removal, the scheduling and sequencing for removal of parking areas, concrete areas, and sidewalks would be dependent on the overall phasing and sequencing of the entire Project. Parking Lot 7 would remain until the end of FSR as a primary laydown and support area.

The demolition of the surface areas would involve the removal of only the asphaltic concrete (surface) course in paved areas and the cement concrete where it is present. The aggregate subbase and base courses beneath these surface coverings would be left in place for incorporation into the grading work.

Conventional excavation equipment would be used to strip or remove asphalt. The concrete removal would be performed with conventional demolition equipment. Asphalt and concrete would be assessed for their suitability for recycling. It is anticipated that clean concrete would be crushed for reuse on site, surplus concrete would be recycled off site, and asphalt would be recycled off site.

The shotcrete (i.e., sprayed concrete) at the Power Block is a wire-mesh reinforced shotcrete with rock anchors embedded into the slope features. Total square footage of the shotcrete is approximately 3 acres. The shotcrete facing would be broken and removed only where it would be exposed in the final grading plans. Facing located beneath proposed final grade would remain in place. Where the facing is removed, the rock anchors would be torch cut flush with the surface of the rock substrate. No effort would be made to remove the anchoring rods or concrete grout embedding the rods inside the slope.

2.3.12.5 Other Features to be Removed

Other miscellaneous features would require demolition and/or removal from the DCPP site, including the following:

- retaining walls
- fences and razor wire
- concrete block barriers along roads
- concrete highway barriers along roads
- steel guardrails along roads

The removal of retaining walls, guard rails, and fencing would be done with conventional demolition equipment. Footings for these would be removed to a minimum depth of 3 feet. The other concrete items listed above can be removed simply by lifting with conventional equipment onto transport vehicles.

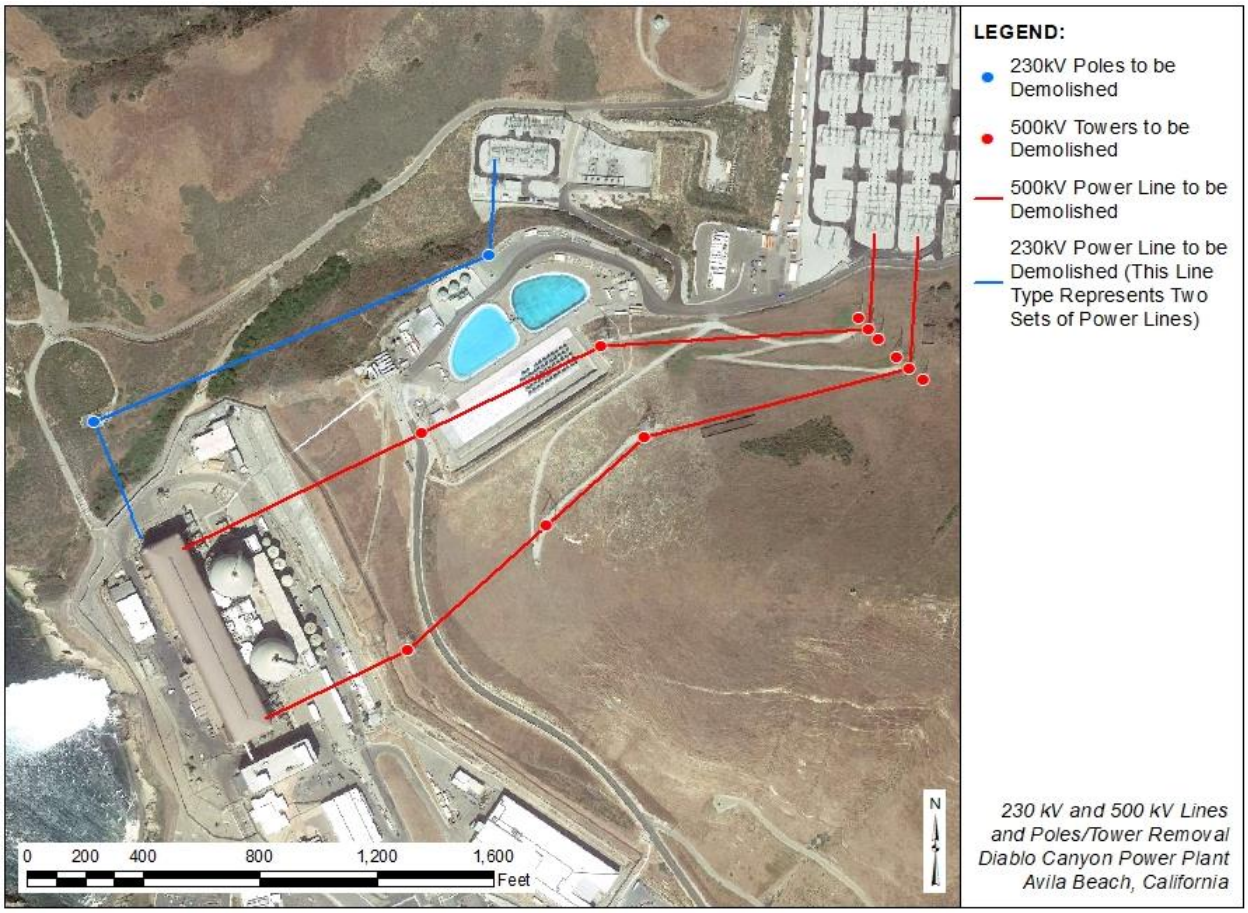
All these materials can be reused or scrapped; otherwise, the materials would be disposed.

2.3.13 Removal of 230 kV Lines and Poles and 500 kV Lines and Towers from Switchyards to Diablo Canyon Power Plant

While both the 230 and 500 kV switchyards are proposed to be retained, the following transmission lines and support structures (see Figure 2-18) would be removed in Phase 1:

- two support poles and 2,100 linear feet of 230 kV, three conductor transmission lines between the turbine building and the 230 kV switchyard
- eleven support towers and 6,000 linear feet of 500 kV, three conductor transmission lines between the turbine building, and the 500 kV switchyard.

Figure 2-18. 230 kV and 500 kV Lines and Poles/Tower Removal



Source: PG&E, 2021a – Figure 2.3.15-1.

Conventional demolition equipment and methods would be used to remove the 230 kV poles, the transmission line disconnects from the turbine building, and the transmission line up to the switchyards. For the southwest 230 kV pole, the pole foundation and guy wire foundations would be abandoned in place. The demolition contractor could opt to remove the 500 kV towers either with conventional equipment, long-reach equipment, or by helicopter since some of the towers are in locations that are more difficult to access.

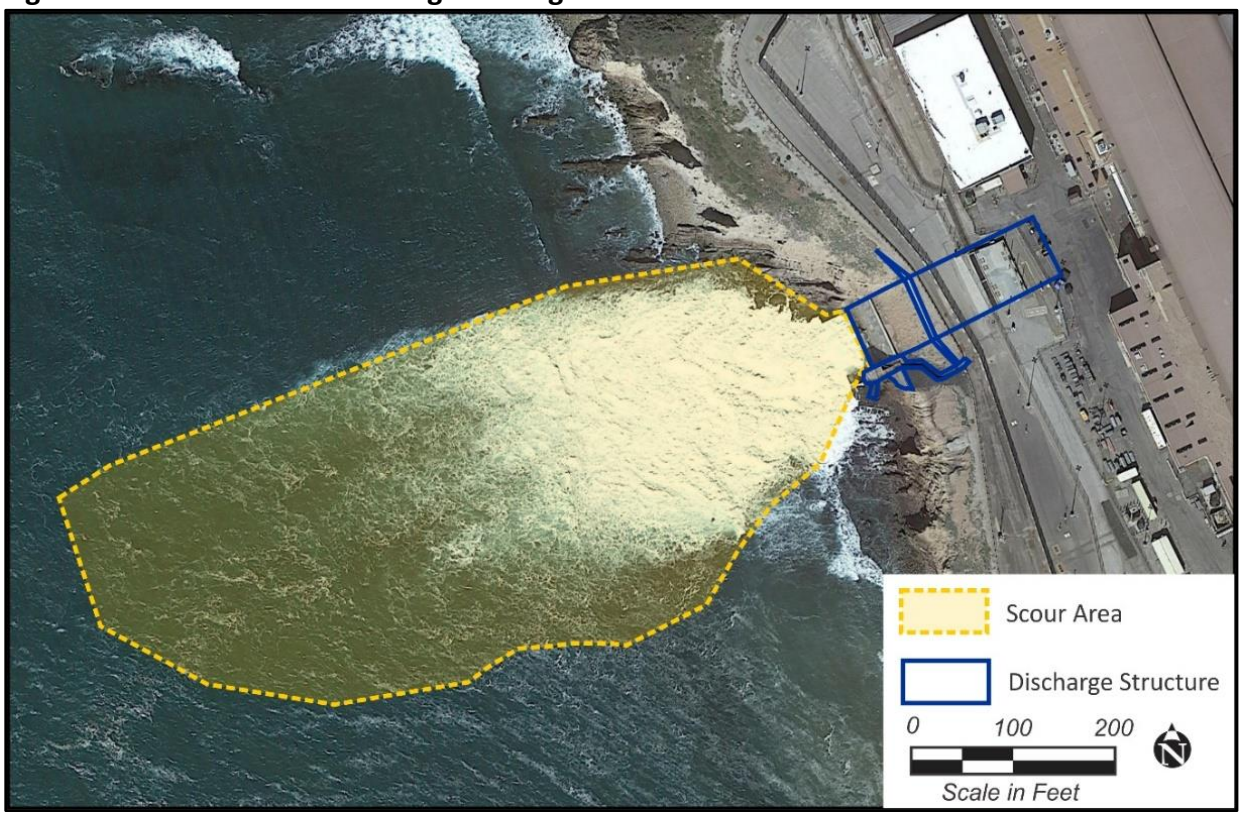
The concrete pole/tower support foundations would be broken with a hoe-ram and removed down to the surrounding grade level. Any rebar would be cut at grade level. A 10 foot by 10-foot area is anticipated to be restored for each tower foundation removed.

2.3.14 Discharge Structure Removal

The Discharge Structure is located to the west of the turbine building and is an irregularly shaped stepped structure with an associated stairwell system (see Figures 2-19, 2-20, and 2-21). The structure was constructed to direct the flow of water from the plant's discharge conduits out to the Pacific Ocean. The Discharge Structure was built into the bluff west of the turbine building, occupying a footprint of approximately 13,000 square feet. A portion of the Discharge Structure is below MSL and would require that the demolition area be isolated from the ocean. A cofferdam

system and dewatering system would be utilized to keep the Discharge Structure's demolition area dry.

Figure 2-19. Plan View of Existing Discharge Structure and Scour Area



Source: PG&E, 2021a – Figure 2.3.17-2; PG&E, 2022c – Appendix 1.

Figure 2-20. Discharge Structure Components

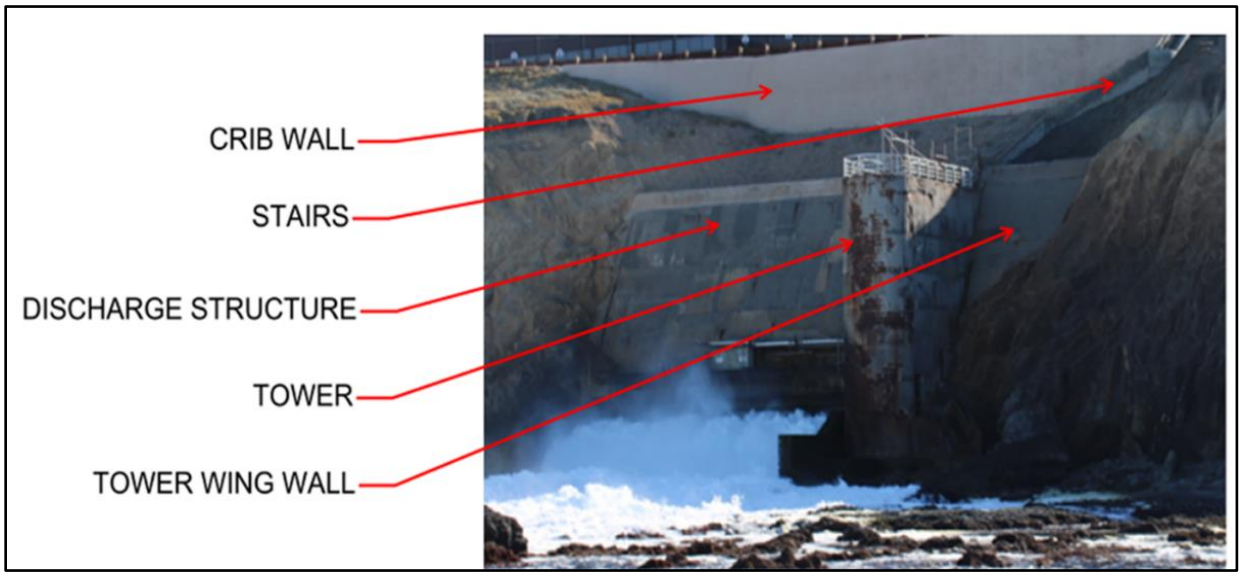
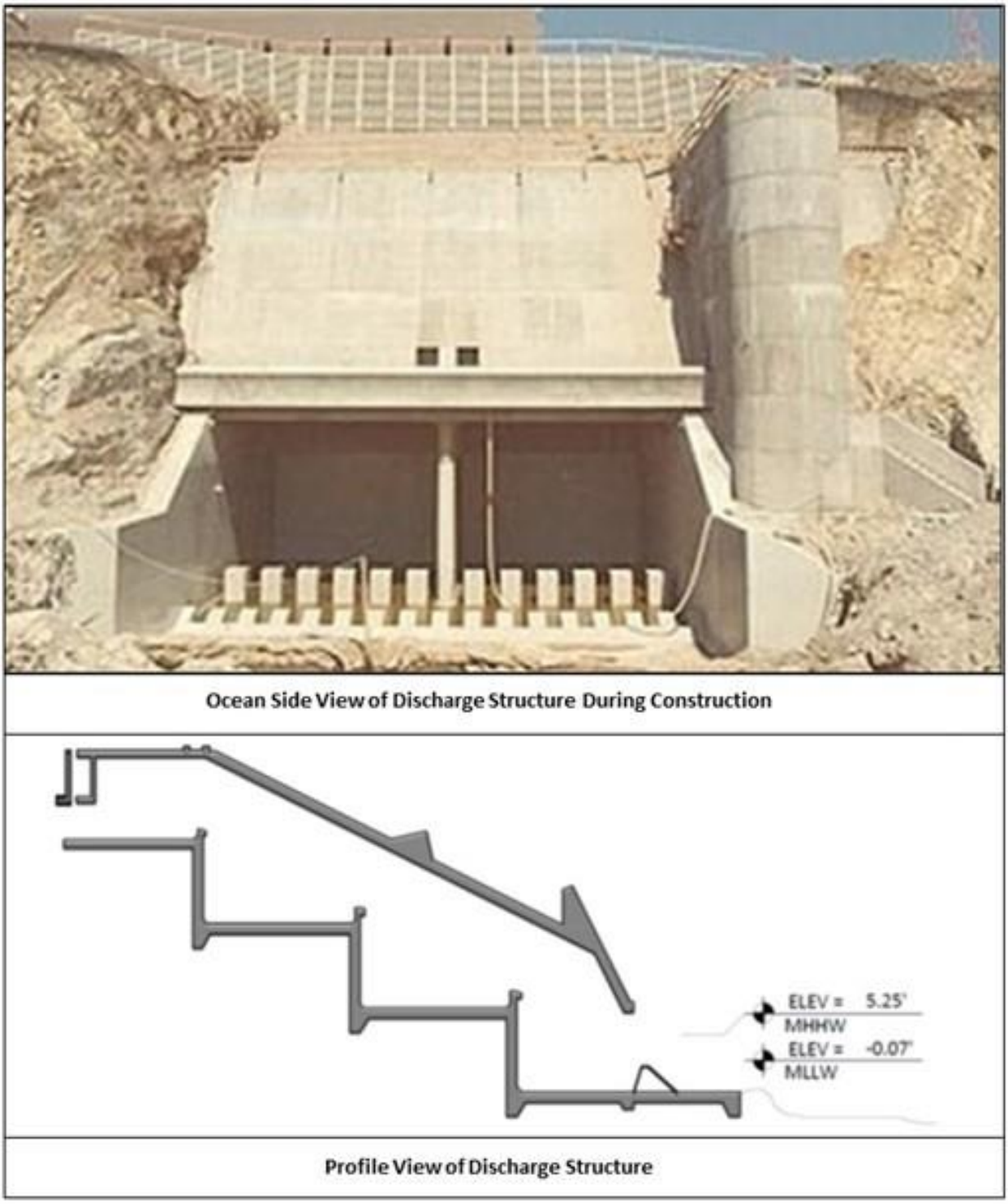


Figure 2-21. Discharge Structure During Construction and Cross-Section View



Source: PG&E, 2021a – Figure 2.3.16-1.

Three options for demolition and restoration of the discharge structure were evaluated by PG&E using a Net Environmental Benefit Analysis (NEBA) approach to determine the option that would have the greatest environmental benefits. Results of the NEBA indicated that the full removal of the discharge structure (i.e., removal of all concrete down to bedrock, followed by full backfill of the void with quarry rock) and partial removal of the discharge structure (i.e., leaving the

sidewalls in place followed by full backfill with quarry rock) provided the highest environmental benefits compared to the other options. However, when factoring in NRC license termination activities (i.e., removal of any residual radiological contamination and meeting NRC release criteria), full removal/full backfill was deemed to be the preferable approach.

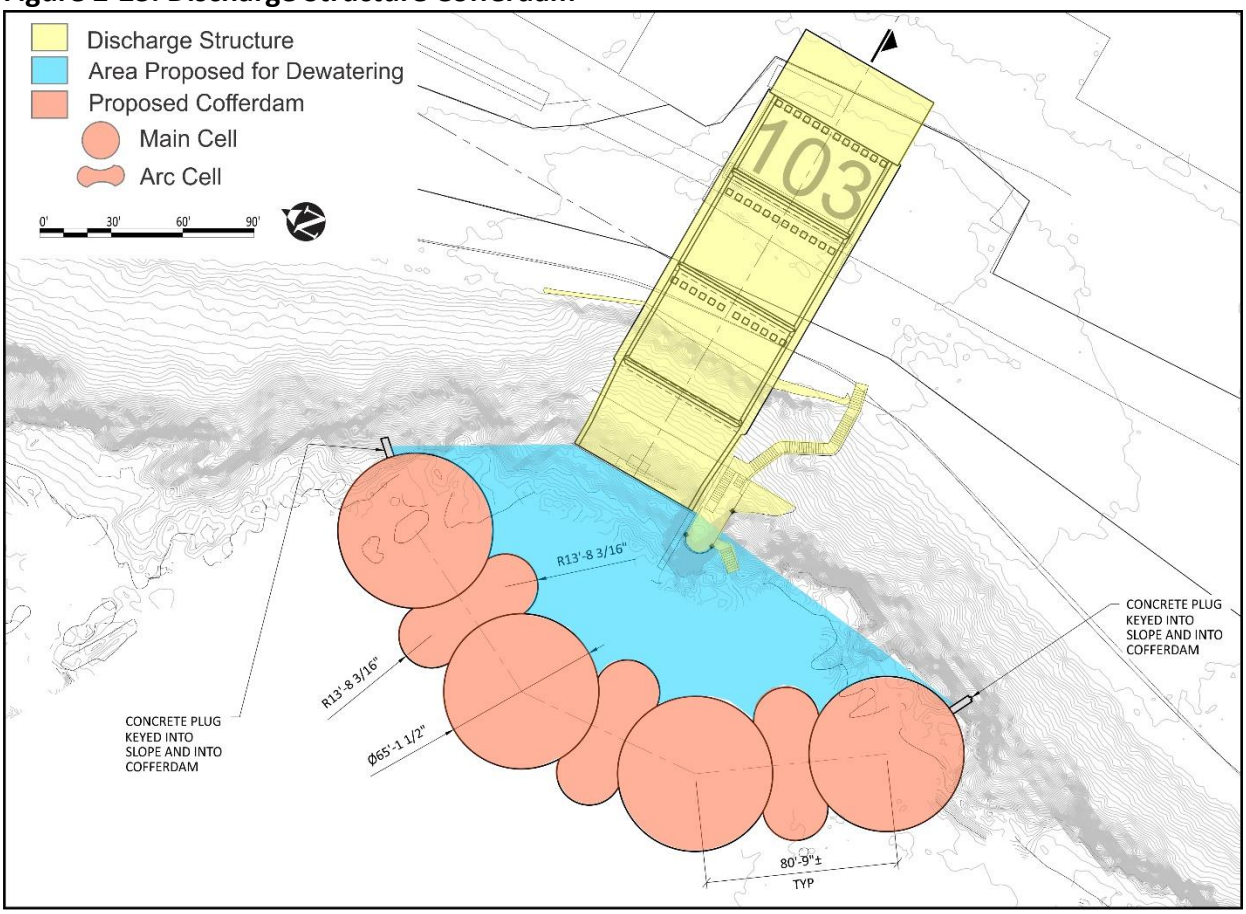
To support removal of the Discharge Structure, a circular cell steel sheet pile cofferdam would be installed prior to demolition to isolate the demolition area from the ocean. A similar cofferdam design was utilized during the initial construction of the Intake Structure in the early 1970s (see Figure 2-22).

Figure 2-22. Photo from Original Intake Structure Cofferdam Construction

Source: PG&E, 2022c – Figure 4.1.1-3, Threading Sheets.

Benefits of a circular cell style cofferdam include it being a gravity structure that does not require substantial anchoring into the ground (as opposed to a conventional cantilevered sheet pile wall), and its ability to perform as a reliable water barrier. Due to the rocky seafloor conditions, difficult pile driving conditions are anticipated making a cantilevered wall system costly. Since the cofferdam design relies solely on gravity and friction, little pile embedment is required during cofferdam construction; pile driving would utilize a crane-mounted vibratory hammer. The circular cell cofferdam system is comprised of two major elements: the main cell and the arc cell to be comprised of more than 600 sheet piles, which may be referred to in some uses as the “major cell” and “minor cell,” respectively (see Figure 2-23).

Figure 2-23. Discharge Structure Cofferdam



Source: PG&E, 2022c – Appendix 1, Figure S2.01: Discharge Area - Site Plan.

The cells would be comprised of interlocking flat sheet piles. Each cell would be filled with concrete to create a concrete plug, followed by gravel. Each cell along the bottom inner rim would be filled with concrete to create a concrete seal approximately 2-feet-high and 2-feet-wide creating a wedge to seal any gaps beneath the cell wall and ocean floor, followed by gravel to the top of the cell wall (PG&E, 2023b). As the cells are filled with gravel, large tensile forces would develop in the interlocks connecting the sheets, similar to the tension that develops in the rings of a wooden barrel. The sheets "bulge" outward, establishing full-length contact between the adjacent interlocking sheets. The interlock contact is typically watertight and does not require additional measures for sealing.

Construction of the circular cell cofferdam would proceed in a linear direction cell-by-cell, with work crews and equipment staging on the previously constructed main cell. An additional benefit of the circular cell design is the ease of removal. Since the steel sheets are not embedded deeply into the substrate, removal is made easier. A circular cell cofferdam is recommended for consideration as the method of isolating the Discharge Structure, to enable the structure to be demolished and the surrounding shoreline disruption to be mitigated during the demolition phase.

The cofferdam would have a surface area of approximately 17,175 square feet. Approximately 1,272 cubic yards (CY) of concrete would be placed in the cofferdam to create a concrete plug, and approximately 38,167 CY of gravel would be placed in the cofferdam. The concrete would be

brought on site via approximately 142 ready mix truck trips, and the gravel would be transported from the Port of Long Beach to Diablo Cove via approximately 15 barge round trips. Following removal of the Discharge Structure, the cofferdam would be dismantled. Prior to removal of the sheet piles, gravel fill would be removed with a dredge or excavator bucket, then after all the gravel fill is removed, the sheet piles would be removed along with the concrete seal attached to the sheet piles (PG&E, 2023b). Any remaining gravel, concrete, or sheet piles pieces would be removed by a dive team and dredge or excavator bucket (PG&E, 2023b). All gravel and concrete would be removed in its entirety. Concrete from the cofferdam would be reused to backfill the water tunnels (see Section 2.3.16.4) and the gravel reused for restoration of the bluff (approximately 8,828 CY) and backfilling of the Firing Range (approximately 29,339 CY). See Section 2.3.16.2 for discussion of removal of the existing Firing Range.

The Discharge Structure would be removed in its entirety back to the water tunnels and the water tunnels would be sealed with a concrete bulkhead to isolate them from the ocean. The demolition of the Discharge Structure would be conducted by first removing the overburden atop the Discharge Structure with conventional excavation equipment or a dragline bucket or clamshell bucket attached to a crane. The different waste components from the Discharge Structure would be separated after demolition and transferred to a debris staging area anticipated to be located in Zone 6 (see Figure 2-12) for processing, packaging, and disposal.

After the Discharge Structure has been demolished and while the cofferdam is still in place, the shoreline would be turned over for FSR, including FSS (see Section 2.3.22), restoration (see Section 2.3.15) of the void created by removal of the discharge structure, and landscaping activities.

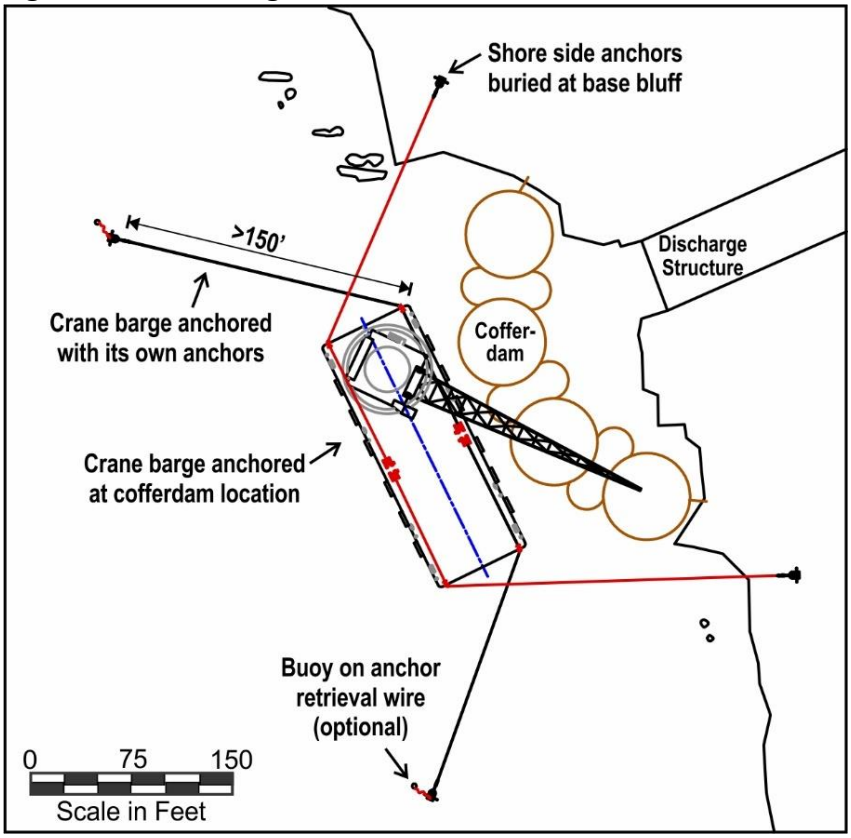
Discharge Structure Demolition Anchoring Approach

The crane barge used to support removal of the Discharge Structure would utilize a four-point anchoring system, two shore side anchors placed above the high tide line and two anchors from the crane barge (see Figure 2-24). With the help of an assist tug, the crane barge would be moored by dropping an anchor in the target location, and then subsequently dropping the next anchor until all four anchors are on the sea bottom. Then all four anchor wires can be tensioned to move the crane barge into the target working location. PG&E may consider other anchoring options, such as spud barge anchoring.[8]

When anchored away from the Discharge Structure cofferdam, the barges would utilize "offshore" pre-installed mooring buoys (water depths are approximately 30-50 feet in this offshore area) (see Figure 2-25). The buoys with anchors would be oriented such that if the barge is tied to it with mooring ropes from the four corners, the barge would face west into the dominant wave direction.

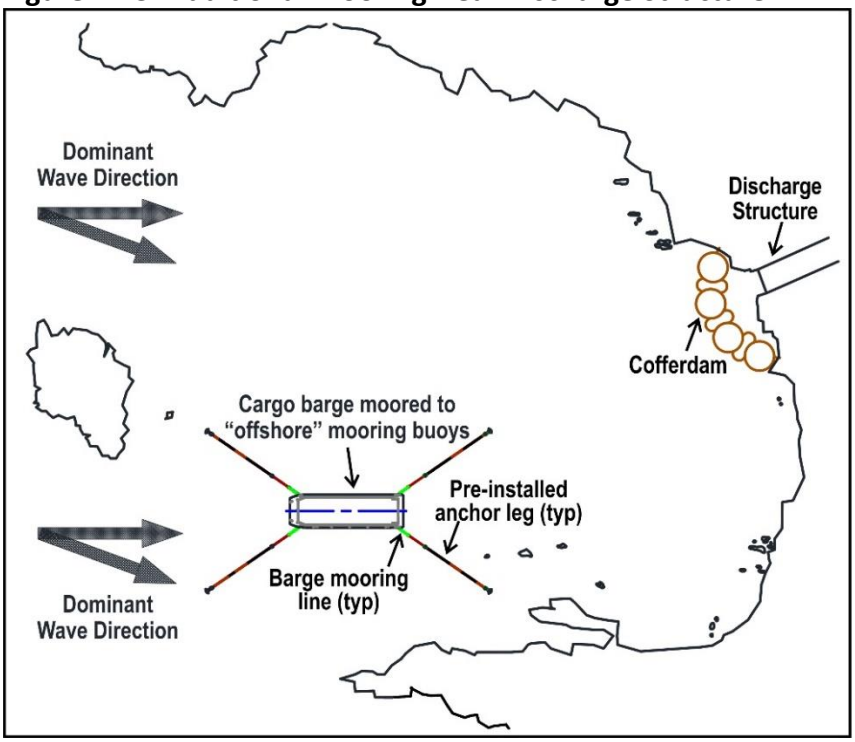
[8] A spud barge is moored by steel shafts or through-deck piling, which are essentially pipes driven into the soil or sand at the bottom of the water to provide stability. These are referred to as spuds. (Naylor Law Team, 2019)

Figure 2-24. Mooring in Diablo Cove



Source: PG&E, 2022c – Appendix 4, Drawing 20/2005-004.

Figure 2-25. Additional Mooring Near Discharge Structure



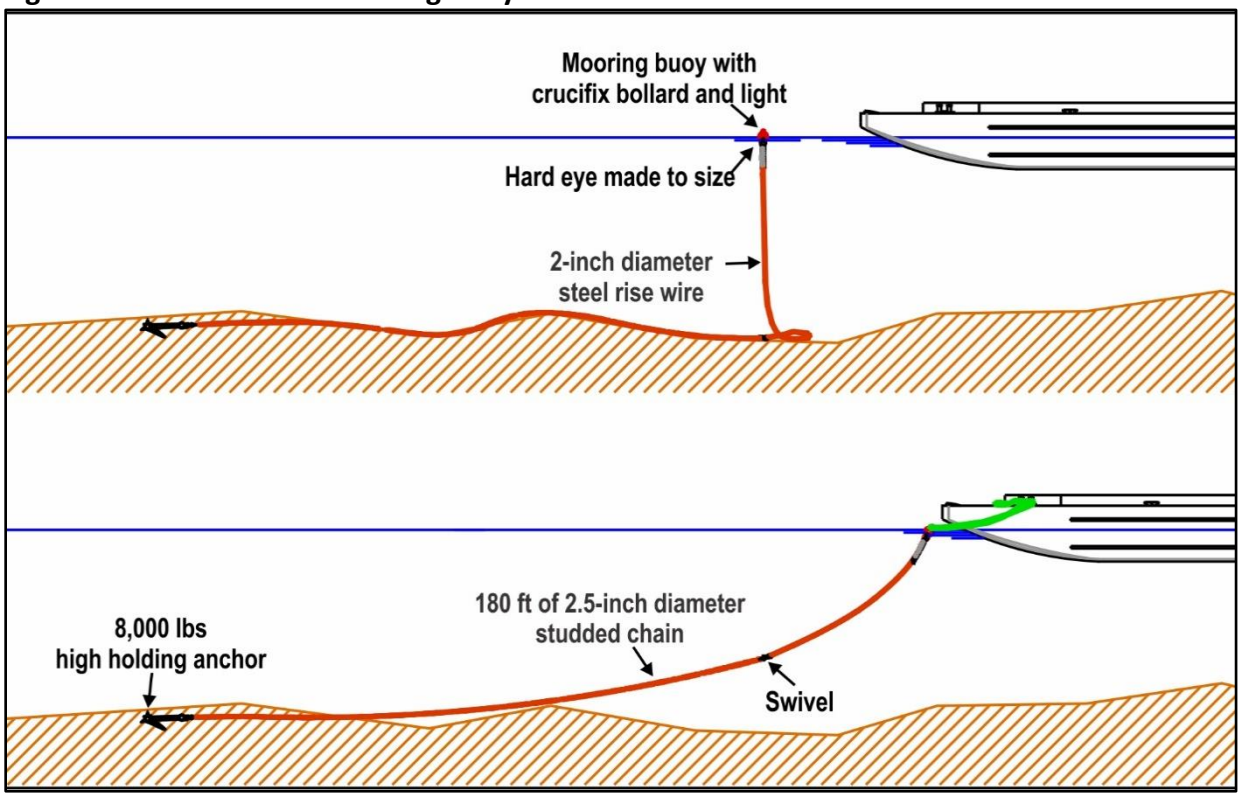
Source: PG&E, 2022c – Appendix 4, Figure 2 and Drawing 20/2005-006.

It is anticipated that each mooring leg would consist of the following main components:

- 8,000 lbs high holding power anchor (Moorfast® or Stato®)
- 180-270 feet of 2.5-inch studded ground chain (depending on water depth)
- 40-60 feet of 2-inch steel riser wire (length = water depth + 10 feet)
- Mooring buoy – large foam filled cylindrical can or drum (see Figure 2-26).

The mooring buoys would be reinstalled with a suitable anchor installation vessel or a barge and a tug.

Figure 2-26. Anchor and Mooring Buoy



Source: PG&E, 2022c – Appendix 4, Drawing 20/2005-007.

2.3.15 Discharge Structure Restoration

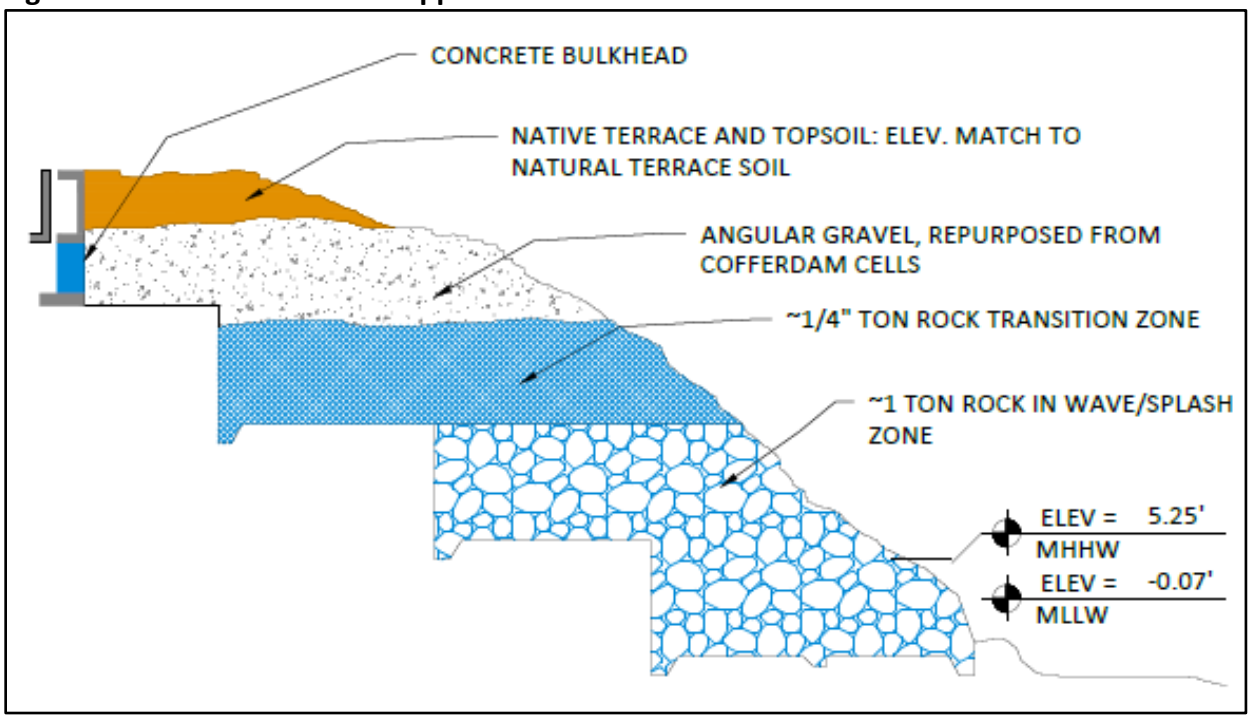
The primary restoration goal for the DCPP marine areas is the physical development and protection of marine habitats including rocky subtidal, rocky intertidal, and some soft bottom features to facilitate re-establishment of natural communities. Following demolition of the Discharge Structure, restoration activities would be based on the re-establishment of habitat areas followed by natural attenuation and growth of marine populations of fish and invertebrates. Natural succession would re-establish the productive and valuable marine resources in the Discharge Cove.

Following full removal of the Discharge Structure, which includes the tunnel extending 30 feet into the bluff, a void would be left in the bluff. This void would be restored through installation of layers of different materials that blend with the natural stratigraphy of the bluff. The bluff restoration is comprised of four different zones with each zone utilizing a different material that progressively decreases in size as elevation along the bluff increases (see Figures 2-27 and 2-28).

Each zone represents a gradual transition in material from 1-ton quarry rock at the base to soil at the crest. The volume of material for the bluff restoration was developed considering loss of material within the voids of the underlying zone such that a separation geotextile is not needed, and no grouting is proposed. The geometric configuration of the bluff restoration was selected by PG&E to match as closely as possible the configuration of the surrounding bluff. The larger 1-ton quarry rock, which is expected to be sourced from Santa Catalina Island, placed at the base would function to resist erosion from wave action. Based on the conceptual design, the bluff restoration area would exhibit a slope of approximately 43 degrees, which is equivalent to or less than the commonly accepted angle of repose of angular rock/gravel. Additional geotechnical evaluation of the bluff restoration configuration, including slope stability analysis under static and dynamic conditions, would be completed as part of the detailed design. (PG&E, 2023b)

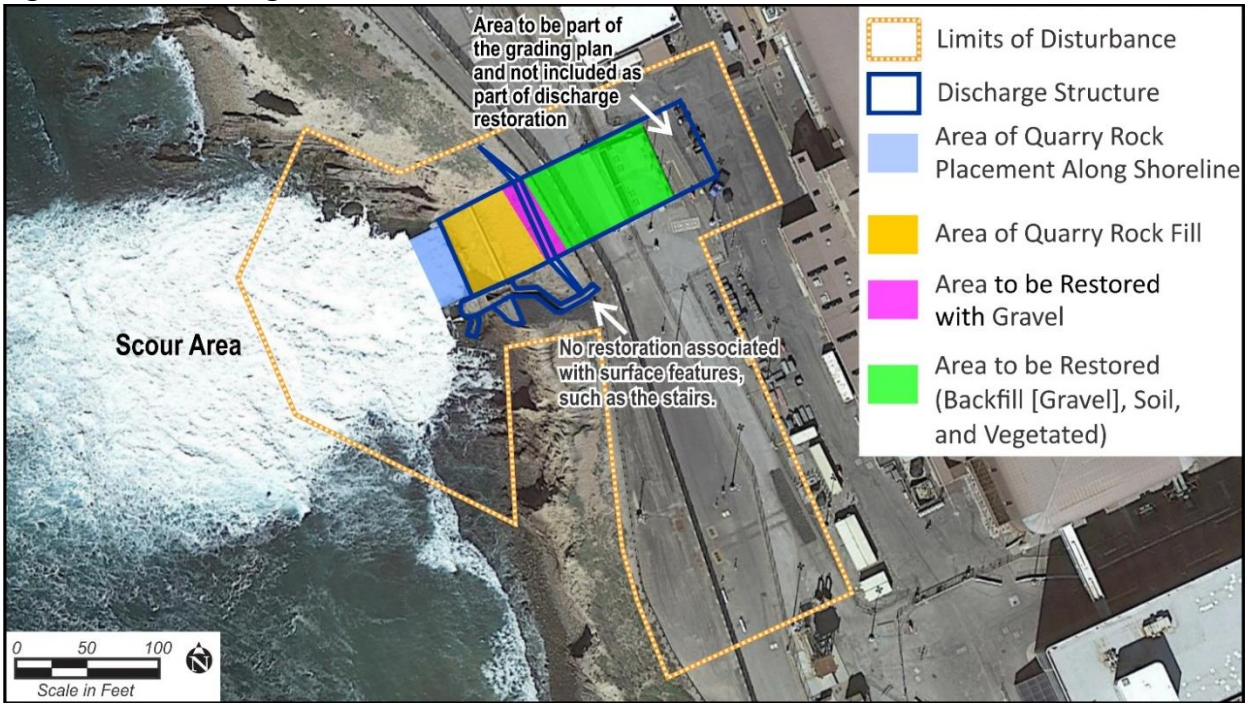
This approach is inherently stable and would maintain the natural profile of the bluff and allow for upland and intertidal restoration. The intent of the bluff restoration is not to create a rigid, monolithic structure that is subject to sudden or catastrophic collapse under extreme loading conditions, but to create a flexible infill that is able to resist erosion while adapting to the evolving configuration of the surrounding bluff (PG&E, 2023b).

Figure 2-27. Bluff Restoration Approach



Source: PG&E, 2022c – Appendix 3.

Figure 2-28. Discharge Structure Restoration Area



Source: PG&E, 2021a – Figure 2.3.17-1, modified per PG&E, 2022c – Appendix 1, Figure S2.01: Discharge Area - Site Plan and Appendix 7 (Limits of Disturbance).

The total volumes of material needed to restore the bluff following removal of the Discharge Structure is detailed in Table 2-5.

Table 2-5. Discharge Structure Void Restoration Details

Fill Volumes for Discharge Void Restoration	Neat Volume (ft^3)	Volume (CY)	Weight (tons)	Estimated Barge Round Trips
Native Terrace & Topsoil	60,000	2,222	3,000	No Barges or Off-site trucks. Sourced On Site.
Gravel Transition Zone	238,356	8,828	13,110	No Barges or Off-site trucks. Sourced On Site.
¼-Ton Rock – Transition Zone [3]	69,080	2,559	3,989	1 Barge Round Trip [1]
1-Ton Rock – Wind/Wave Splash Zone [3]	138,558	5,131	8,002	2 Barge Round Trips [1]
Total	**505,994**	**18,741**	**28,101**	**3 Barge Round Trips** [2]

[1] Assumes 4,000 tons per barge trip based on a 200-foot flat dock barge or hopper barge.

[2] Up to 15 barge round trips would be used to transport gravel from the Port of Long Beach to fill the Discharge Structure cofferdam; this is not part of restoration (see Section 2.3.14, *Discharge Structure Removal*).

[3] Rock is expected to be sourced from Santa Catalina Island. The size of 1/4-ton rock would be 0.5-1-foot diameter and 1-ton rock would be 2-3-foot diameter (PG&E, 2023b).

The native terrace and topsoil would be obtained from atop the Discharge Structure prior to removal of the Discharge Structure and temporarily stockpiled for subsequent use during bluff restoration. The gravel would be sourced from the cofferdam; of the approximately 38,167 CY in the cofferdam, 8,828 CY would be used for restoration of the bluff. As noted in Section 2.3.16.2, the remaining 29,339 CY would be placed in the Firing Range for backfilling purposes. The ¼-ton rock (0.5 to 1-foot diameter) and 1-ton rock (2 to 3-foot diameter) would be transported to the site via barge (PG&E, 2023b). The ¼-ton and 1-ton rocks would be installed via crane, with the former using a clamshell and the latter using rock tongs. The gravel would be installed via crane

with a clamshell. The native terrace and topsoil would be installed via loader/dozer and then compacted. The placed rock, gravel, and native terrace and topsoil would provide bluff erosion protection as well as new subtidal and intertidal habitat.

Subtidal areas in the wash and discharge zone are highly scoured due to the pressure and presence of the continuous discharge (see Figures 2-19 and 2-28). A pre-restoration hyper-accurate hydrographic survey would be completed to discern the subtidal conditions. The condition is currently unknown because of discharge operations. It is expected that natural attenuation and sediment movement following cessation of discharge would re-establish the natural conditions in Diablo Cove, and it is not expected that extensive subtidal restoration would be necessary in the scour zone. However, following a post-decommissioning hydrographic survey, monitoring would take place to document the re-establishment of a natural sea floor and associated community structure.

After bluff restoration, the bluff would be visually and topographically similar to pre-development conditions. Figure 2-29 provides a comparison of existing and post decommissioning conditions at the bluff.

Figure 2-29. Comparison of Existing and Post-Decommissioning Bluff Conditions

Source: PG&E, 2022d.

2.3.16 Grading and Fill

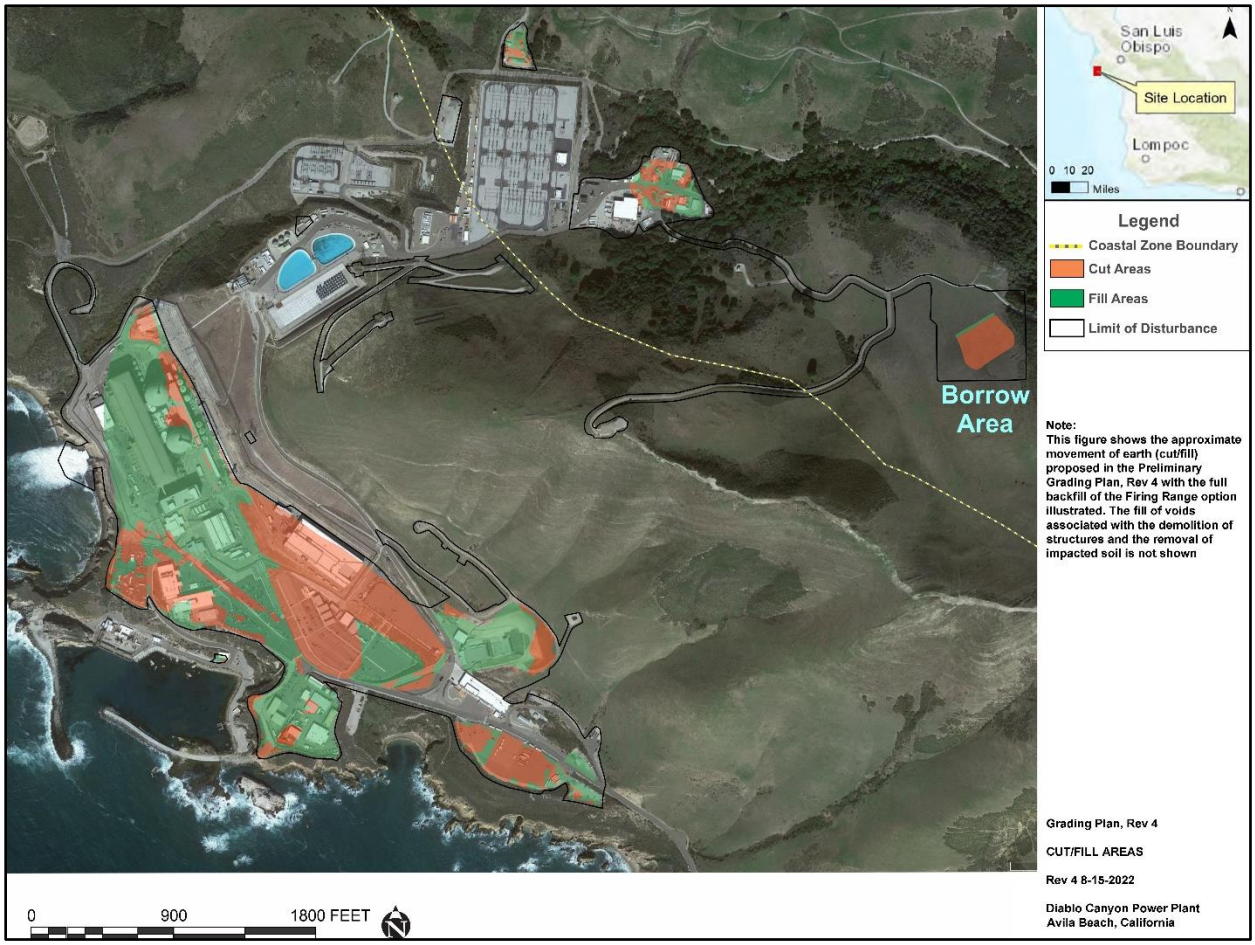
The demolition/removal of man-made elements (all aboveground structures and utilities, asphaltic concrete pavement, concrete slabs, and concrete foundations to at least 3 feet below grade, subsurface utilities, and any concrete lining of utility trenches, retaining walls, etc.) would be accomplished prior to grading/fill operations. Aggregate road base beneath paved surfaces would remain and would be incorporated into the grading/fill. Grading and fill operations would take place primarily during Phase 2 of decommissioning (see Section 2.4.4).

2.3.16.1 Remaining Grading and Fill Activities

The primary objectives of the remaining grading/fill activities would be backfilling voids created by the demolition of DCPP structures and restoring the DCPP site to a natural condition that promotes positive drainage. The earthwork quantities in Table 2-6 also account for additional void space created by the planned removal of impacted soil. A Preliminary Grading Plan was developed by PG&E that represents the minimal amount of earthwork necessary to achieve these objectives. The Preliminary Grading Plan is designed to generate the required amount of fill material on site through areas of cut (i.e., areas where the finished grade is lower than the existing grade) and reuse of clean, crushed on-site concrete derived through the demolition of structures (see Figure 2-30). The reuse of clean concrete is discussed in more detail below in Section 2.3.16.3. The anticipated maximum depth of cut is 60 feet and maximum depth of fill is 20 feet across the DCPP site, not including the Firing Range or Borrow Site (referred to as SE Borrow Site) (PG&E, 2022b – Grading Plan 1). The maximum depth of cut for the SE Borrow Site would be about 85 feet and the Firing Range would be about 60 feet of fill for the full backfill of the Firing Range (PG&E, 2022e).

Estimated earthwork quantities in cubic yards (CY) based on the Preliminary Grading Plan are presented in Table 2-6. If cut/fill volumes cannot achieve a zero-balance due either to a decreased availability of fill material or an increased need for fill, a viable source of fill material has been identified on the DCPP property as shown on Figure 2-30 (Borrow Area). The combined area of disturbance within the Firing Range and SE Borrow Site is approximately 7.2 acres and the total quantity of earthwork is approximately 198,000 cubic yards (PG&E, 2022e). The SE Borrow Site would be accessed utilizing the existing paved roads that extend past the 500 kV Switchyard and Waste Storage Buildings to the east, then via an existing paved road (Skyview Road) and gravel road (Ranch Road) to the SE Borrow Site (PG&E, 2021b – PD-14). The existing road to the SE Borrow Site is 12 feet wide. Improvements to the road to the SE Borrow Site would include widening to a width of approximately 20 feet by adding 4 feet of graded aggregate base/crusher to each side, improving the road surface but not changing the extent of the road surface type (i.e., keeping pavement where it is pavement and gravel where it is gravel), adding dips, shallow swales, ditches, and a slight slope, where needed, to control stormwater (ERM, 2023a). The temporary width of disturbance would be 34 feet wide; however, no oak trees would be removed. In those areas where oak trees are located, the width of disturbance would be reduced as needed to avoid oak tree removal; traffic control would be implemented to allow for one-way traffic. Use of the SE Borrow Site would be consistent with San Luis Obispo County Code 22.58.060 governing the management of oak woodlands, as PG&E does not propose or anticipate any clear-cutting of oak woodlands or exceedance of the five percent removal threshold for the DCPP site's total oak woodland canopy (PG&E, 2021d – TBIO-1).

Figure 2-30. Grading Plan Cut/Fill Areas, Including SE Borrow Site



Source: ERM, 2022.

Note: Limit of Disturbance includes areas where grading, surface disturbance, and vegetation removal is likely to occur during decommissioning and restoration activities (PG&E, 2022b – Grading Plan 3). Cut/Fill would occur post decommissioning, prior to construction of proposed structures, such as the new indoor Firing Range and GTCC Waste Storage Facility (PG&E, 2022b – Grading Plan 6).

Table 2-6. Full Backfill Cut and Fill Estimate

Item	Coastal Zone	Inland Zone	Site Total
I. CUT/FILL BALANCE			
A) Volume of Fill for Void Areas (cubic yards)			
a) Structural Demolition – Volume Resulting from Structure Removal:			
i) Reactor 1	22,830	0	22,830
ii) Reactor 2	22,830	0	22,830
iii) Auxiliary Building	33,316	0	33,316
iv) Turbine Buildings	25,866	0	25,866
v) Excavation Depth of Buildings (assumes 3 feet below existing ground surface)	27,943	3,927	31,871
vi) Water Circulation Tunnels [1]	34,244	0	34,244
vii) Intake Structure [1]	11,840	0	11,840
viii) Discharge Structure	16,775	0	16,775
Structural Demolition – Volume resulting from structure removal (i+ii+iii+iv+v+vi+vii+viii):	*195,644*	*3,927*	*199,572*
b) Earthwork – Volume Resulting from Export of Impacted Soil:			
i) Radiologically Contaminated Areas	15,930	0	15,930
ii) Transformer and UST Area	10,000	0	10,000
iii) Existing Firing Range Contaminated Areas	10,000	0	10,000
Earthwork – Volume resulting from export of impacted soil (i+ii+iii):	*35,930*	*0*	*35,930*
c) Earthwork – Soil Fill Volume Resulting from Grading Operations: [2]			
i) Firing Range Restoration	136,837	0	136,837
ii) Site Restoration (excludes Firing Range & SE Borrow Site)	300,714	1,946	302,660
iii) SE Borrow Site	0	6	6
iv) Discharge Structure (native soil)	2,215	0	2,215
Earthwork – Soil fill volume resulting from grading operations (i+ii+iii+iv):	*439,766*	*1,952*	*441,718*
Volume of Fill for Void Areas (a+b+c):	***671,340***	***5,879***	***677,220***
B) Volume of Cut Soils and Other Fill Materials (cubic yards)			
a) Earthwork – Soil Cut Volume Resulting from Grading Operations:			
i) Firing Range Restoration	3,634	0	3,634
ii) Site Restoration (excludes Firing Range & SE Borrow Site)	335,482	633	336,115
iii) SE Borrow Site	0	57,124	57,124
iv) Discharge Structure (native soil)	2,215	0	2,215
Earthwork – Soil cut volume resulting from grading operations (i+ii+iii+iv):	*341,331*	*57,757*	*399,088*
b) Volume of Recycled Crushed Concrete Derived from Site Demolition:			
Clean concrete aggregate available for reuse in CLSM 1	30,500	0	30,500
Clean concrete aggregate available for reuse with soil 3	165,695	0	165,695
Volume of recycled crushed concrete derived from site demolition (i+ii)	*196,195*	*0*	*196,195*

Table 2-6. Full Backfill Cut and Fill Estimate

Item	Coastal Zone	Inland Zone	Site Total
c) Volume of Non-Soil Imported Materials:			
Discharge Structure Restoration (quarry rock)	16,775	0	16,775
Cofferdam, excess materials (gravel and concrete)	30,610	0	30,610
CLSM imported components (sand, cement, etc.)	15,584	0	15,584
Non-Earthwork – Volume of imported rock (i+ii+iii)	*62,969*	*0*	*62,969*
Volume of Cut Soils and Other Fill Materials (a+b+c)	***600,495***	***57,757***	***658,252***
Net Cut (+) / Fill (-) Balance (A-B) [5]	***-70,845***	***51,878***	***-18,968***
II. EARTHWORK QUANTITY (Per County Titles 22 and 23)			
A) Volume of Fill (cubic yards)			
a) Export of impacted soil (I.A.b)			35,930
b) Grading operations (I.A.c)			441,718
Volume of Fill (a+b)			*477,648*
B) Volume of Cut (cubic yards)			
a) Grading operations (I.B.a)			399,088
b) Imported topsoil 4			35,000
Volume of Cut (a+b)			*434,088*
Earthwork Quantity (A+B)			***911,736***
Estimated area of site disturbance, including soil disturbance and vegetation removal (acres): 102			

Source: PG&E, 2022e (Earthwork Qty_Rev4_publish.pdf– Scenario 3, Full Backfill, as edited by County; Sheet G-02 – Limits of Disturbance).

Acronyms: UST = Underground Storage Tank, CLSM = controlled low strength material

[1] Clean, crushed concrete generated from structure demolition would be used to create CLSM used to fill the void volume of the water circulation tunnels and Intake Structure. The CLSM may consist of up to two-thirds clean, crushed concrete, or approximately 30,500 cubic yards. The total void volume of the tunnels is 22,600 cubic yards. The total void volume of the Intake Structure is 7,900 cubic yards (to be completed in Phase 2).

[2] The volume of soil fill represents the quantity of material required to fill the slopes, parking lots, and other areas. The "volume of soil fill", "volume of void space resulting from the removal of impacted soil", and "volume of void space resulting from structure demolition" together comprise the volume of total fill required to achieve the final grades within the grading plan. (PG&E, 2021e – PD-6)

[3] The volume of clean concrete aggregate available for reuse is based on applying a volume increase of 20 percent to the volume of clean concrete generated from structure demolition. The volume increase is not applied to the quantity of clean, crushed concrete used to create CLSM for filling the water circulation tunnels and Intake Structure since this concrete may be processed differently and therefore not experience the same bulking factor.

[4] Volume of imported topsoil (II.B.b) would be used to layer 3 inches of topsoil across restored areas that are not vegetated under existing conditions.

[5] The Section I(B) Net Cut-Fill (A-B) balance reflects a fill shortage of 18,968 cubic yards. The preliminary grading contours depicted for final site restoration are based on assumptions and intended to depict anticipated limits of disturbance and general finish contours. Final contours do not reflect the Low Impact Development drainage retention features (i.e., percolation ponds, swales, basins) that are required for permitting site restoration grading plans; when Low Impact Development features for drainage requirements are incorporated into the final grading design, the net cut and fill would be balanced.

2.3.16.2 Removal of Existing Firing Range

The existing Firing Range would be removed after 2029 when all SNF has been moved to the ISFSI (PG&E, 2022a). The Firing Range area would undergo soil remediation (see Section 2.3.21) during Phase 1, and in Phase 2 would be restored (see Section 2.4.2). Soil sampling at the Firing Range was performed in 2009. Analytical results for soil samples collected in the upper 3 feet contained elevated lead and, to a lesser extent, copper, and antimony (Antimony is a lustrous gray metalloid [Element dB, Atomic Number 51] used to increase the hardness of alloys such as those used for bullets.). Based on an area of 350 feet by 250 feet and a depth of 3 feet, the estimated volume of lead-impacted soil is approximately 10,000 CY. Also, according to the DCPP 2018 HSA, total metal exceedances included lead, copper, and antimony. Leachable lead concentrations exceeded both the Soluble Threshold Limit Concentration and Resource Conservation and Recovery Act hazardous waste criteria. Lead exceeded the Total Threshold Limit Concentration and California Ocean Plan screening levels in samples collected from the storm water conveyance channel.

Following remediation of the Firing Range in Phase 1, as part of Phase 2 the Firing Range would be backfilled and restored. Approximately 136,837 CY of fill would be placed in the Firing Range area (see Table 2-6), of which approximately 57,124 CY of cut would be removed from the SE Borrow Site (PG&E, 2022e). Development of the SE Borrow Site would be required to meet California Building Code and County Standards, which may include benching, terracing, and grading transitions as well as erosion and sedimentation control measures and would require sign-off from the Project Geologist.

Use of the SE Borrow Site enables the final surface elevation of the Firing Range to be consistent with the adjacent topography. Conversely, in-lieu of using fill from the SE Borrow Site, clean concrete (see Section 2.3.16.3) along with a top layer of fill could be used to fill the former Firing Range. However, if clean concrete is used to fill the Firing Range, fill from the SE Borrow site would be needed to make up for the clean concrete not used to backfill other areas following demolition activities. The details of landscaping and planting of the former Firing Range area would be determined during Phase 2 as part of Final Site Restoration.

A total of approximately 29,083 CY of gravel (PG&E, 2022e) imported to the DCPP site to construct the Discharge Structure cofferdam could be placed in the Firing Range to assist in backfilling the Firing Range. This reduces the cut from the SE Borrow site. The remainder of the fill for the Firing Range would be from the excess cut and fill balance across the DCPP site (PG&E, 2022e).

2.3.16.3 Recycled Concrete

Building and hardscape demolition activities including utilities, structures, roads, and parking areas are expected to generate on the order of 200,000 CY (404,500 tons) of clean concrete, not including asphaltic concrete (PG&E, 2022e). This concrete can be reused as an engineered fill material for site restoration either directly or through blending with soil as part of a grading approach to achieve a cut/fill balance with on-site materials. A Site Grading and Concrete Re-use Strategy Plan was developed by PG&E to assess the different methods and locations where on-site recycled concrete can be used to achieve these objectives. Utilizing the concrete on site eliminates hauling the material off site for disposal and reduces transportation-related impacts

to air quality and traffic/circulation. In addition, it reduces the amount of soil needed for backfilling.

Portions of the clean concrete can be incorporated into the final restoration efforts directly without soil blending. These options are acceptable in settings where the crushed concrete is well isolated from direct exposure to stormwater and groundwater, and in settings where higher strength backfill materials are required. In these instances, recycled concrete could be crushed and used as the aggregate portion of controlled low strength material (CLSM) (i.e., a cementitious blend of aggregate and cement) to backfill areas such as the water circulation tunnels associated with the Intake Structure and Discharge Structure. Crushed concrete can also be blended with soil into an engineered fill. The ratio of soil to concrete within the engineered fill would depend on its intended application, with greater concrete content used for filling building voids and for grading fill deeper than 2 feet below final grade. For grading fill within the top 2 feet from final grade, a ratio of 5:1 soil to concrete would be utilized to alleviate potential stormwater and groundwater quality impacts.

2.3.16.4 Filling of the Water Circulation Tunnels

The water circulation tunnels associated with the Intake Structure and Discharge Structure are to be filled with CLSM. As discussed in Section 2.3.9.5, bulkheads would be constructed to seal the tunnels off from the ocean. It is common engineering practice for the aggregate portion to comprise up to two-thirds of the CLSM mix. Because the existing concrete tunnel structures would be retained, the CLSM fill contained in the tunnels would be isolated from the environment and use of crushed concrete as the aggregate portion of the CLSM mix is an ideal use of the concrete in this setting. The aggregate sizing (extent of concrete crushing) is a final design consideration but would likely need to be sized at about ¾-inch or smaller for this use. The final design would also have to determine whether the additional cost of crushing concrete to the extent needed for CLSM use remains the most beneficial way to dispose of the concrete. The interior of all the tunnels comprises a total volume of 34,244 CY (PG&E, 2022e); therefore, approximately 22,600 CY of crushed concrete can be used as aggregate in the CLSM.

2.3.16.5 Water

Grading and fill operations are expected to require on the order of 110,000 gallons per day of water. This usage rate is based on the following assumptions:

- four 4,000-gallon water trucks, each refilling once every 90 minutes over a 10-hour workday.
- one water truck dedicated to the borrow source, one truck dedicated to each of the two fill placement locations, and one truck dedicated to haul roads.
- daily water demands would vary with daily variations in weather conditions such as temperature, wind, humidity, and precipitation.

2.3.16.6 Fill Production Rates

The site and borrow source logistics along with performance handbooks for heavy equipment, safety, and construction quality control requirements suggest that a production rate on the order of 4,000 CY per day is likely for the borrow source excavation and engineered fill placement. This translates to 160 truckloads per day using 40-ton articulated haul trucks, all on site. This

estimated production rate is based on two loading operations within the borrow source, each excavator loading 8 to 10 trucks per hour, and two areas receiving and placing this material as engineered fill. Certain focused operations are assumed to be completed at lower production rates (i.e., 2,000 CY per day).

2.3.17 Stormwater Management

Under Clean Water Act Section 402 (33 USC Section 1251 et seq.), the National Pollutant Discharge Elimination System (NPDES) controls water pollution by regulating point sources of pollution to waters of the US. The State Water Resources Control Board (SWRCB) administers the NPDES permit program in California. Projects that disturb one or more acres of soil are required to obtain coverage under the State NPDES General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit [CGP] Order 2009-009-DWQ). This permit includes clearing, grading, and disturbances to ground such as stockpiling or excavation, but not regular maintenance activities performed to restore the original line, grade, or capacity of a facility. A SWPPP must be developed and implemented for each project covered by the CGP. The SWPPP must include best management practices (BMPs) that are designed to reduce potential impacts to surface water quality during project construction and operation.

DCPP currently maintains stormwater permit coverage under the State of California's Industrial General Permit (IGP) program (Waste Discharge Identification [WDID] No. 3 40I018248). PG&E anticipates that soon after power generation activities cease in August 2025, the DCPP site's Standard Industrial Classification code would be reclassified to a code related to environmental cleanup/remediation. Additionally, PG&E would apply for coverage under the State's NPDES CGP which would supersede the IGP coverage. As a result, the DCPP site would no longer be required to maintain IGP coverage.

During Phase 1 activities, PG&E anticipates that most stormwater management activities would include temporary erosion and sediment controls to control run-on and run-off from building demolition and grading activities. As noted in Section 2.3.9, *Building Demolition*, any runoff from building demolition dust suppression measures would be captured by a GWTS prior to release (PG&E, 2021d – PD-7). Treated water would be discharged according to allowable discharge concentrations according to the Central Coast Regional Water Quality Control Board. PG&E would also prepare a SWPPP and submit the required permit registration documents, which includes a Notice of Intent and certification by a Legally Responsible Person. The SWPPP would define the requirements for periodic monitoring, inspections, and stormwater sampling, retention of monitoring records, reporting of incidences of noncompliance, and submittal of annual compliance reports. Additionally, the SWPPP would contain erosion and sediment control plans that would provide guidance for placement of erosion and sediment controls per CGP requirements.

After Project approval and prior to the start of decommissioning activities, PG&E would prepare and implement the SWPPP. As described above, the SWPPP would specify erosion and sediment controls to minimize construction impacts on surface water quality. The SWPPP would be designed specifically for the hydrologic setting of the DCPP site (e.g., surface topography, storm drain configuration, etc.). Implementation of the SWPPP would help stabilize graded areas and reduce erosion and sedimentation. BMPs would also be implemented to reduce exposure of construction materials (e.g., paint, oil, grease, etc.) and wastes (e.g., soil, contaminated building

demolition debris, etc.) to stormwater. BMPs would be installed following manufacturers' specifications and according to standard industry practice.

Identified erosion and sediment control measures would be installed prior to the start of construction activities and would be inspected and improved as needed as required by the CGP.

2.3.18 Spent Nuclear Fuel and Greater Than Class C/Low-Level Radioactive Waste Management/Storage

After permanent shutdown, a total of 1,261 SNF assemblies from Unit 1 and 1,281 SNF assemblies from Unit 2 would be stored in the SFPs (2,542 total). These assemblies would be transferred to the ISFSI from approximately 2025 through 2029. A total of 58 canisters of SNF are already stored at the ISFSI, with each canister packed in its own storage cask. This existing inventory at the ISFSI would remain unchanged until the SNF is transferred to the ISFSI as described above. Once all transfers of SNF have been made to the ISFSI, the SNF stored at the ISFSI would require long-term management.

LLRW with radionuclide concentrations that exceed the NRC limits for Class C waste is called GTCC waste (e.g., reactor internals, process waste). For the Proposed Project, GTCC waste inventory includes legacy GTCC waste that has been generated throughout normal operation of the DCPP units, and GTCC waste that would be generated during RPV internals segmentation. Currently, there is no off-site facility licensed for disposal of GTCC waste, nor are there any federal disposal facilities licensed to receive GTCC waste. Therefore, all GTCC waste must be packaged and stored at the site at which the waste was generated (i.e., the DCPP site). Storage of GTCC waste requires both canisters and a storage location to comply with specific NRC regulatory requirements for this type of material. Typically, GTCC waste is placed into casks like those used for SNF dry cask storage and, in some cases, stored with the spent fuel casks at the ISFSI. However, the ISFSI site-specific license SNM-2511 does not include GTCC waste material as part of the allowed contents of the ISFSI.

The plan is for the GTCC waste generated during DCPP decommissioning to be removed, sized, placed in casks similar to the new casks and module design to be used at the ISFSI (or an NRC approved alternative), and stored on site until it is transferred to the DOE. It would be stored at a facility (referred to as the GTCC Waste Storage Facility) to be constructed on the east end of Parcel P in the East Canyon Area. The site is located directly east of the 500 kV switchyard and approximately 1,500 feet east of the existing ISFSI (see Figures 2-2 and 2-9). This area was selected for storage of the GTCC waste because it is a previously disturbed site, relatively close to the existing ISFSI, and has adequate space to accommodate the footprint of the waste storage facility away from most workers.

The existing GTCC legacy waste currently stored in the SFPs would continue to be stored in the SFPs until it is loaded in storage canisters and transferred to the new on-site GTCC Waste Storage Facility. The RPV internals GTCC waste would be immediately transferred to the GTCC Waste Storage Facility after it is generated and loaded into storage containers as part of RPV internals segmentation (see Section 2.3.10). Once all transfers of GTCC waste have been made to the GTCC Waste Storage Facility, the casks would require management at the GTCC Waste Storage Facility.

2.3.19 Decommissioning Waste Transportation and Disposal

2.3.19.1 Disposal Sites

The issuance of Executive Order D-62-02, issued on September 13, 2002, by then Governor Gray Davis, effectively prohibits depositing "decommissioned materials" into California Class III landfills until an assessment of the public health and environmental safety risks associated with the disposal of decommissioned materials had been completed. As a result of this Executive Order, potential out of state disposal locations are identified below:

- LLRW 20.2002 Waste: Three facilities exist capable of accepting this classification of waste, including Energy Solutions in Clive, Utah; WCS in Andrews, Texas; and US Ecology in Idaho.
- Class A LLRW: Currently only two facilities exist that would most likely accept DCPP Class A waste. Most of the Class A waste is anticipated to be shipped to Clive, Utah, which is approximately 825 miles from the DCPP site. Some of the Class A waste generated during RPV and internals dismantlement activities would be shipped to Andrews, Texas, which is approximately 1,300 miles away.
- Class B/C: The facility in Andrews, Texas is the only site available to accept this waste.
- Non-radiological waste: Currently, La Paz County Landfill in La Paz, Arizona or the Columbia Gorge Landfill (there are five landfills in this area) in Boardman, Oregon are the most likely candidates to receive the non-detect (i.e., below detectible limits) general debris because (1) of its proximity to the DCPP site (510 miles) and (2) its ability to accept the general debris via rail.
- Recyclable metals: Separable recyclable metals would be trucked to the Port of Long Beach or shipped directly to a major recycling facility in Salt Lake City, Utah. This is the closest end-point recycling facility to DCPP at approximately 840 miles away.
- Recycled concrete: Clean concrete would be reused on site as discussed in Section 2.3.16.3.

2.3.19.2 Waste Transportation

A "blended" approach using ocean barging, trucking, and rail transport would be utilized to transport waste material from the DCPP site to the appropriate facilities during decommissioning, as described below (PG&E, 2021b – Trans-5). This approach was informed by a Transportation Plan completed in 2018 by PG&E along with a Barge Transport Study completed in 2021 by US Ecology. These efforts evaluated various transportation options, including barging and trucking methods, end destination facilities, waste packaging options, and truck to rail locations. The overall transportation approach includes the following features:

- Maximize the use of ocean transport by barge to reduce truck trips through the local community
- Storage of waste generated during the initial periods of decommissioning for shipment during high-volume generation periods, thereby further reducing land transport and maximizing the use of barges
- Transport of large volumes of demolition waste by barge in a short period of time to support Power Block Demolition

- Truck to rail transport of Class A, B, and C LLRW
- Optimized barge transport routes and packaging.

Packaging and logistics associated with the transport of high-level radioactive waste and SNF is jointly overseen by the NRC and US Department of Transportation (DOT). Class A, B, and C LLRW packaging and logistics is regulated by DOT. For additional information, see Sections 2.3.10 and 2.3.11, as well as Appendix G2 and Appendix G5. Additionally, for barge transport the requirements of 33 CFR Part 160 (Ports and Waterways Safety) and 33 CFR Part 83.10 (Traffic Separation Schemes) would be followed (see Appendix C).

Rail Transportation. In selecting suitable rail transloading facilities, the viability of the Coast Line was evaluated. The line is utilized by Amtrak and by Union Pacific to serve coastal communities and industries. In addition, alternate railyards were investigated both locally and on the main Union Pacific north/south "Interstate 5 Corridor" line transiting Bakersfield.

PG&E evaluated suitable rail properties based on the following general criteria:

- A secure, privately-owned railyard in an area with appropriate zoning, preferably heavy industrial
- Access for trucks arriving from DCPP
- Access to the main UPRR north/south line with frequent UPRR switches
- Sufficient available space to accommodate loading structures (i.e., gantry crane) and office trailers on site
- Ability to accommodate LLRW shipments.

The SMVR-SB site was identified as the preferred locations because of the following:

- Has a UPRR mainline switch
- Generally compatible surrounding uses
- Ability to switch railcars 7 days-week
- Repair and maintenance facilities for railcar repairs as needed.

Three Central Valley rail loading locations were previously evaluated: (1) Huron, (2) Buttonwillow, and (3) South Kern Industrial Center. Key disadvantages with these locations/facilities include longer trucking distances (over 100 miles for each one) with potential lane closures.

Standard Direct Truck. Waste would be loaded in sealed 20-foot intermodal containers and placed onto chassis-type trailers to be towed by standard semi-truck. All loads would comply with applicable weights and emissions regulations for this type of equipment.

Truck to Rail. Waste would be loaded similar to Standard Direct Truck method described above and transported to the identified rail site(s). Containers would be loaded directly onto rail cars and transported to disposal facilities. Waste shipments loaded onto rail cars would be completed in a regulatory-compliant manner to ensure emission regulations and weight restrictions (bridges or otherwise) are not exceeded along the route to the disposal facility (PG&E, 2021b – Trans-6).

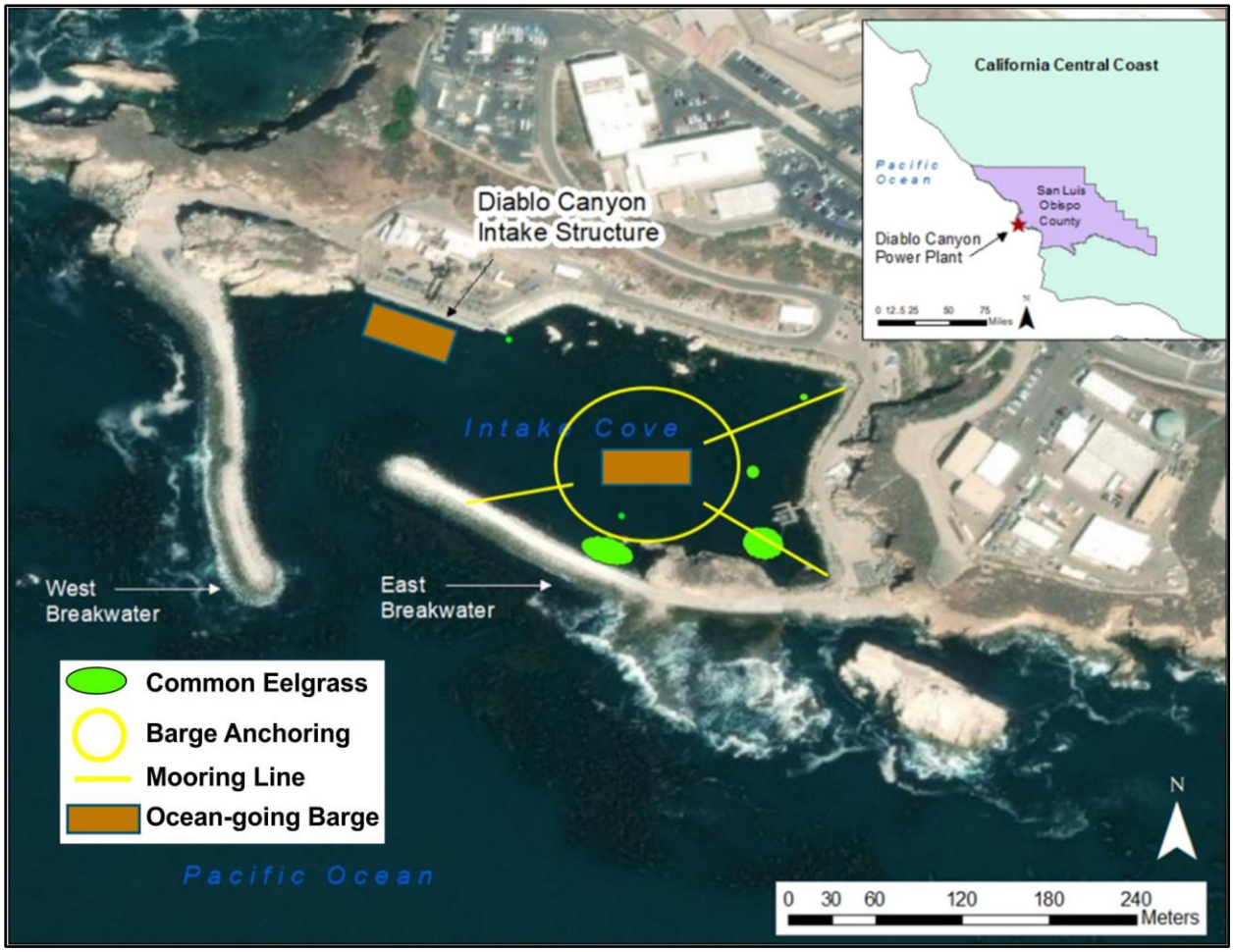
Specialty Heavy-Haul Transport Vehicle. Specific configurations and equipment would vary depending on the exact load being transported. For these oversized loads the California Legal Dual Lane Transporter is a 12 line (axle), 20-foot-width trailer with a Prime Mover (engine) at the front and rear of the trailer. The overall length of the transport would be approximately 200 feet.

The 12 lines (axles) on the trailer spread the load to meet US Department of Transportation requirements. These loads would be permitted and classified as oversize and over-height loads. The transporter would travel piloted by a Forward Pilot Car and a Rear Pilot car in addition to a support crew with extra tires, sanitary facility, and miscellaneous support needs. In addition, California Highway Patrol would escort the transporter during all movements in California. Due to the width of the specialty heavy-haul transport vehicle, lane closures may be required on certain roads. As noted in Table 2-7, a maximum of 79 specialty heavy-haul transport vehicle trips would be required to transport Large Component Class A Waste or RPV/RVI Class A/B/C Irradiated metal to the SMVR-SB site or to Utah or Texas for disposal.

- **Barges** would be moored directly to the Intake Structure and materials loaded via a crane off the Intake Structure. Waste transported by barge would be loaded into sealed 20-foot inter-modal containers and placed onto a pair of 72-foot-wide by 260-foot-long barges. This pair of barges would be transported to either Portland or Boardman, Oregon for offloading (see Tables 2-6 and 2-7). The tugs used would vary by use but are assumed to fall into the following three categories (PG&E, 2021b – GC-2):
- **Ocean going tugs** with the horsepower to move two loaded barges through normal ocean conditions at the most efficient and economical pace. Typically, this would be a 6,000 or greater horsepower unit.
- **River tugs** with the maneuverability to transport two loaded barges up the Columbia River. These tugs require greater maneuverability for river conditions, are “push-style” tugs rather than ocean-going tugs, with lower horsepower and specifically sized to accommodate the Columbia River locks. Typically, these would be 3,000-4,000 horsepower units.
- **Spotting tugs** would be used to bring empty and full barges in and out of the Intake Cove. These tugs are smaller, highly maneuverable, and better suited for handling the confined space of the Intake Cove.

Loading waste containers from the Intake Structure to an ocean transport barge would take approximately four (4) days. For each loading cycle (approximately 27 loading cycles total), two empty barges would be stored at an offshore mooring in Avila Bay/Port San Luis for approximately one to two weeks and transported to the Intake Cove when sufficient waste containers are filled and ready for loading. One barge would be moved to the face of the Intake Cove by a tug and secured to the Intake Structure bumpering system for loading. Once the barge is full it would be moved over to the anchoring location in the southwest corner of the Intake Cove (Figure 2-31) and secured through three mooring lines. At this point, the second barge would be brought to the loading area on the Intake Structure and loaded with the remaining waste containers. Once filled, the two barges would be tied together and transported by tug to the waste disposal facility in Oregon.

Figure 2-31. Intake Cove Anchoring Locations



Source: Ramboll, 2022 – Figure 1.

It is not expected that a barge would be located in the anchorage location for more than two (2) days during this process. Overall, it is expected that a total of 55 barges would be needed to transport all the waste assigned for Oregon. As all waste would not be packaged and loadable at the same time, it is expected that loading would occur over several years such that there would not be extended periods of time where a barge would be in the anchoring location. No other vessels are expected to be stored in the anchorage location.

Rail and truck transport would be utilized during the transport of highly regulated material, such as Class B and Class C LLRW, and during project timeframes when not enough waste is generated to support large-volume barge shipments. Trucks would travel from the DCPP site via Diablo Canyon Road to Avila Beach Drive, then east on Avila Beach Drive to US-101. Haul trucks travelling to out-of-state disposal sites would use southbound US-101 to State Route 134 to Interstate 210 to Interstate 10 toward the Utah, Arizona, and Texas disposal sites depending on the waste type (PG&E, 2020b). For rail transport, material would be trucked to either the PBR (non-radiological and non-hazardous waste only) or to the SMVR-SB site (see Figure 2-3 and Figures 2-4). For the PBR site, trucks would continue south on US-101 to Pismo Beach, exit Hinds Avenue/Price Canyon Road, northeast on Price Canyon Road, and then east on Bello Street to the PBR site. Trucks delivering shipments to the SMVR-SB site would continue south on US-101 to Santa Maria, exit Betteravia Road, then travel west on Betteravia Road to the SMVR-SB site (PG&E, 2021f).

Similar to the routes used by the out-of-state haul trucks, the trains carrying construction waste away from the rail sites are anticipated to use a similar routing traversing southerly through Santa Barbara, Ventura County, and easterly through Los Angeles, San Bernardino, and Riverside Counties and on to disposal sites out of state (PG&E, 2020b). Rail cars leaving the SMVR-SB site would travel northwest to the UPRR interchange connection at the south end of the City of Guadalupe at which point the ultimate route would be determined by UPRR (PG&E, 2021f; PG&E, 2021g). The PBR site contains a rail spur off the UPRR Coast mainline with an existing switch. Rail cars leaving the PBR site would utilize the rail spur at the site to connect directly with the UPRR Coast mainline. Again, the ultimate route would be determined by UPRR.

It is anticipated that as trucks containing waste arrive at the railyard, waste would be transferred to railcars until the railcars are full, at which point the railcars would be transported from the railyard to the UPRR main line connection. Once the railcars arrive at UPRR, it is assumed they would be added to scheduled trains with similar destinations (i.e., Utah or Texas). The amount of time the railcars spend at the railyard depends on how frequently trucks arrive at the railyard to fill a railcar and a full railcar is loaded for transport to UPRR. The amount of time spent at UPRR depends on how frequently trains with similar destinations are scheduled to pass through or depart from UPRR.

Some material would be shipped by truck or heavy haul transporter directly to the disposal facilities due to either the size, waste type, packaging needs, or if the disposal facility does not have a rail spur. Examples of material to be shipped directly by truck or heavy haul transporter include large components, some RPV and internals waste, and other regulated material. All trucks would be compliant with California's "clean idle" regulations.

Trucking of waste from the DCPP site would occur during non-peak periods to minimize traffic-related impacts to the neighboring communities.

2.3.19.3 Decommissioning Waste Volumes

Waste generated by the Project would be disposed of in compliance with all applicable regulations. This process would require establishment and operation of on-site waste material handling areas, transportation options and routes, and the management and disposal of various decommissioning waste streams. The categories of wastes generated by the Project include the following:

- LLRW
- Low-Activity Radioactive Waste
- Mixed radioactive waste
- Liquid radioactive waste (LRW)
- Dry activated waste
- Radiologically contaminated soil and soil-like materials
- Universal waste
- Any waste containing polychlorinated biphenyl
- Treated wood wastes
- Non-detect concrete
- Non-detect ferrous and non-ferrous metal
- Non-detect general debris
- Other regulated waste
- Lead waste, contaminated and non-detect

Estimates of the various waste types and weights, mode of transportation, destination, and time period for transport are shown in Tables 2-7 and 2-8. Period 1B overlaps with Phase 1 (2024-2031) and Phase 2 (2032-2039). A portion of the trips during the period 2030-2033 (Period 1B)

would likely extend into Phase 2; however, as a worst-case for Phase 1, PG&E assumed all (100%) the waste transportation trips in Period 1B would occur in Phase 1.

Table 2-7. Waste Transportation Trips Per Period

		Number of Round Trips per Period		
		Phase 1		Phase 2 [2]
Mode of Transport by Waste Classification	**Destination**	**Period 1A 2024-2029**	**Period 1B 2030-2033**	**Period 2 2034-2035**
Hazardous/Regulated Waste via Direct Truck	US Ecology in Nevada	257	—	20
Class B/C Waste via Direct Truck	Waste Control Specialists in Andrews, Texas	10	—	—
RPV/RVI Class A/B/C Irradiated Metal via Direct Truck	Energy Solutions Clive, Utah, or Waste Control Specialists Andrews, Texas	57	1	—
Recyclable Metals via Direct Truck	Port of Long Beach or Salt Lake City, Utah	—	—	42
Class A Waste via Direct Truck	Energy Solutions, Clive, Utah	—	4	0
Clean Debris and Soil via Direct Truck	La Paz, Arizona			60
SUBTOTAL VIA DIRECT TRUCK		*324*	*5*	*122*
Large Component Class A Waste via Direct Truck or Truck to SMVR	Energy Solutions Clive, Utah, or Waste Control Specialists, Andrews, Texas	20 [1]	—	—
Large Component Class A Waste via Direct Specialty Transport Vehicle or to SMVR	Energy Solutions Clive, Utah, or Waste Control Specialists Andrews, Texas	42 [1]	—	—
RPV/RVI Class A/B/C Irradiated Metal via Heavy Haul to SMVR	DCPP to SMVR to Waste Control Specialists in Andrews, Texas	37 [1]	—	—
SUBTOTAL VIA TRUCK OR RAIL		*99* [1]	*0*	*0*
Various Waste Types via Barge to Northwest	Portland and Boardman, Oregon, for offload	—	55 [3, 4]	—

Source: PG&E, 2021a – Table 2.3.20-1.

Acronyms: SMVR = Santa Maria Valley Railyard, RPV = reactor pressure vessel, RVI = reactor vessel internals

[1] A maximum of 99 truck trips totaling approximately 8,300 tons would occur to the SMVR-SB site, which translates to approximately 83 railcars to be sent out of state by linking up with existing UPRR trains between 2024-2029 (Period 1A).

[2] Additional approximately 1,760 truck trips are required in Phase 2 to import 34,995 cubic yards of topsoil for the Firing Range (PG&E, 2022b – Enclosure 1, Enclosure 2 – Table 3). Assumes 20 CY of amendment per truck trip (assumes use of a tracker trailer end dump [a.k.a. dump trailer] or Super Dump Truck, which can hold up to 36 CY with high side walls).

[3] The total estimated barge round trips is presented; however, each tugboat for waste transport is assumed to pull two barges (one behind the other); therefore, the actual roundtrips would be 28 or 56 one-way trips.

[4] Up to 15 barge round trips (1 tug per barge) would be used to transport gravel from the Port of Long Beach to fill the Discharge Structure cofferdam and another 3 barge round trips (1 tug per barge) to bring quarry rock from Santa Catalina Island; these are not part of waste transport (see Section 2.3.14, *Discharge Structure Removal*, and Table 2-5).

Table 2-8. Waste Transportation Tons Per Period

		Tons of Waste per Period		
		Phase 1		Phase 2
Mode of Transport by Waste Classification	Destination	Period 1A 2024-2029	Period 1B 2030-2033	Period 2 2034-2035
Hazardous/Regulated Waste via Direct Truck	US Ecology in Nevada	5,124	—	—
Class B/C Waste via Direct Truck [1]	Waste Control Specialists in Andrews, Texas	1,140 ft^3	—	—
RPV/RVI Class A/B/C Irradiated Metal via Direct Truck	Energy Solutions in Clive, Utah, or Waste Control Specialists in Andrews, Texas	507	10	—
Recyclable Metal via Direct Truck	Port of Long Beach or Salt Lake City, Utah	—	—	823
Class A waste via Direct Truck	Energy Solutions, Clive, Utah	—	74	0
Hazardous/Regulated Waste via Direct Truck	US Ecology in Nevada			395
Large Component Class A Waste via Direct Truck or Specialty Transport Vehicle or to SMVR	Energy Solutions Clive, Utah, or Waste Control Specialists Andrews, Texas	7,760	—	—
RPV/RVI class A/B/C Irradiated Metal via Direct Heavy Haul or Heavy Haul to SMVR	DCPP to SMVR to Waste Control Specialists in Andrews, Texas	513	—	—
Hazardous/Regulated Waste via Barge to Boardman	Offloaded in Boardman, OR disposal at US Ecology Idaho	—	19,594	—
Class A Waste via Barge to Boardman	Offloaded in Boardman, OR disposal at Energy Solutions Clive, Utah	—	103,118	—
LARW 20.2002 via Barge to Boardman	Offloaded in Boardman disposal at US Ecology Idaho	—	256,920	—
Recyclable Material via Barge	Offloaded in Portland, OR	—	105,144	—
Clean Material via Barge to Boardman	Columbia Gorge Landfill [2]	—	12,223	—

Source: PG&E, 2021a – Table 2.3.20-2.

Acronyms: LARW = Low Activity Radioactive Waste, SMVR = Santa Maria Valley Railyard, RPV = reactor pressure vessel, RVI = reactor vessel internals

[1] Class B/C bulk waste is categorized in ft^3 instead of tons because this material is shipped in small reusable casks where volume is the appropriate unit of measure and not weight.

[2] There are five landfills in the Columbia Gorge area; waste could be transported to one or multiple landfills in the area.

Of the wastes listed above, the non-radiological and non-hazardous wastes that could be transported out of state via the PBR are shown in Table 2-9. As noted earlier, PBR is a backup or contingency site.

Table 2-9. Wastes That Could Be Transported Via Pismo Beach Railyard

Mode of Transport by Waste Classification	Destination	Tons of Waste	Truck Trips (Phase)
Recyclable Material via Barge	Offload in Portland	108,020	5,401 (Phase 1)
Clean Material via Barge to Boardman	Columbia Gorge Landfill	13,407	671 (Phase 1)
Recyclable Metal via Direct Truck	Port of Long Beach or Salt Lake City, Utah	642	42 (Phase 2)

Source: PG&E, 2021a – Table 2.3.20-3.

While most of this material would be disposed of as waste, an effort would be undertaken to recycle as much material as practical.

2.3.20 Water Management, including Management of the Seawater Reverse Osmosis Facility and Liquid Radioactive Waste

DCPP uses a Cooling Water System (CWS) and Auxiliary Salt Water System (ASWS), whereby, pursuant to PG&E's existing CSLC lease, seawater is withdrawn from the Pacific Ocean through a shoreline Intake Structure and discharged back to the Pacific Ocean at a second, separate, shoreline location. DCPP utilizes a once-through cooling (OTC) water system for DCPP operations to cool plant components. Total OTC flow during routine full power operations is 1,772,000 gallons per minute (gpm), equivalent to 2.55 billion gallons of seawater circulated per day. Ambient temperature seawater is pumped through heat exchanging steam condensers located in DCPP's turbine building. Each DCPP unit utilizes an independent cooling system; however, the systems share common intake and discharge facilities located on the lands leased from the CSLC.

Following transfer of waste heat, the warmed seawater is discharged back into the Pacific Ocean through the discharge channel located at Diablo Cove. Condensed water on the secondary side is recirculated to DCPP's steam generators and flashed back to turbine steam. The CWS removes the heat rejected from the main condensers. The ASWS removes waste heat under normal and emergency conditions from the nuclear steam supply system. The ASWS is also used to remove heat from the SFPs and to dilute LRW.

The Intake Structure also supplies feed water for DCPP's seawater reverse osmosis (SWRO) treatment unit, which provides the majority of freshwater for plant primary and secondary systems makeup, fire protection system source water, and plant domestic water system supply. The reverse osmosis treatment unit has the capacity to produce 450 gpm of freshwater.

Following shutdown of DCPP, only the ASWS and SWRO supply will be in operation, which will represent a 90 percent reduction in ocean flow. PG&E plans to use similar areas for ocean intake and wastewater discharges as used for existing DCPP operations (see Figure 2-32). The water management approach for decommissioning is based on the approved National Pollutant Discharge Elimination System (NPDES) permit issued for DCPP power operations (Order No. 90-09, NPDES No. CA0003751).

SWRO System Discharge. For freshwater production, the following discharge points would be used (see Figure 2-32):

- Discharge Point 001 – Discharge Point 001 is the approved discharge point at the Discharge Structure. This is the primary discharge point for the DCPP. Discharge Points 001B and 001D,

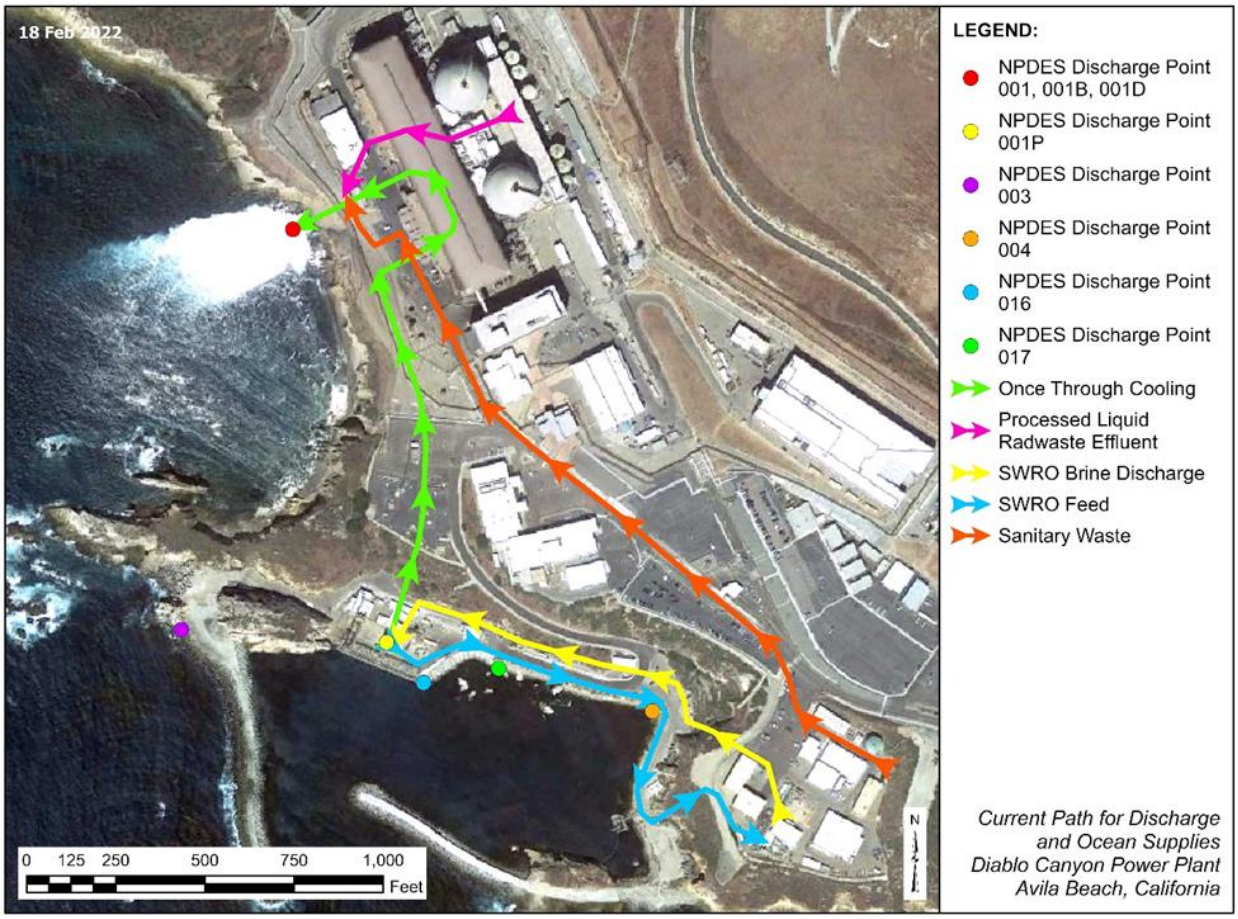
which are identified in NPDES CAA0003571, are located internally to the DCPP. The waste streams are comingled as discharged at Discharge Point 001.

- Discharge Point 001P (within Intake Structure) – This point currently discharges to the suction of the auxiliary saltwater system, which allows for the brine to mix in with the sea water as it gets drawn into the auxiliary saltwater pumps prior to the effluent discharge through Discharge Point 001. During the period of redirected flow, Discharge Point 001P would no longer be used as the brine discharge point. Once a cofferdam is placed in front of the Discharge Structure and following subsequent removal of the structure, discharges to Discharge Point 001 would continue by installing a series of pipes to divert flow beyond the cofferdam within Diablo Cove. Under this configuration, brine would be discharged from the SWRO via the above-ground pipe.
- Discharge Point 003 – Solid material from the ocean is washed from traveling screens at the Intake Structure, collected in a collection pit, and removed for land disposal. The screen wash water and material passing through the collection pit screen are pumped back to the ocean at this intake screen wash discharge point. Discharge Point 003 will continue to be used in its current function.
- Discharge Point 004 – The SWRO facility receives water from the biolab pumps located in the Intake Structure. Excess seawater that cannot be used by the SWRO facility overflows through a pipe and is discharged back to the intake cove through Discharge Point 004. This point would continue as an excess ocean water drainage point.
- Discharge Point 016 – This discharge point allows for removal of accumulated rainwater and seawater from the seawater supply valve box. Discharge Point 016 would continue to be used in its current function.
- Discharge Point 017 – This is currently identified as a discharge point to support draining and maintaining the brine line. Discharge Point 017 would continue to be used in its current function.

Immediately following shutdown, cooling for the SNF stored in the SFPs would continue to be provided. In addition, freshwater production and wastewater disposal would need to continue to support decommissioning activities through Phase 1 (2031). Existing plant equipment would be used as much as practical while the site transitions into decommissioning. During this time, PG&E plans to discharge the remaining wastewater inventories from plant operations that are not needed in decommissioning.

While the auxiliary saltwater cooling system is in operation during decommissioning, it would also provide the necessary volume to dilute effluents received from the SWRO and liquid radiological waste treatment system. Furthermore, this flow stream would receive effluents from other waste streams, which include processed sanitary waste, makeup water pretreatment system, non-radiological water from plant systems, processed water from the oily water separator, and water from the firewater system.

Figure 2-32. Current Path/Period of Reduced Once-through Cooling for Discharge and Ocean Intake

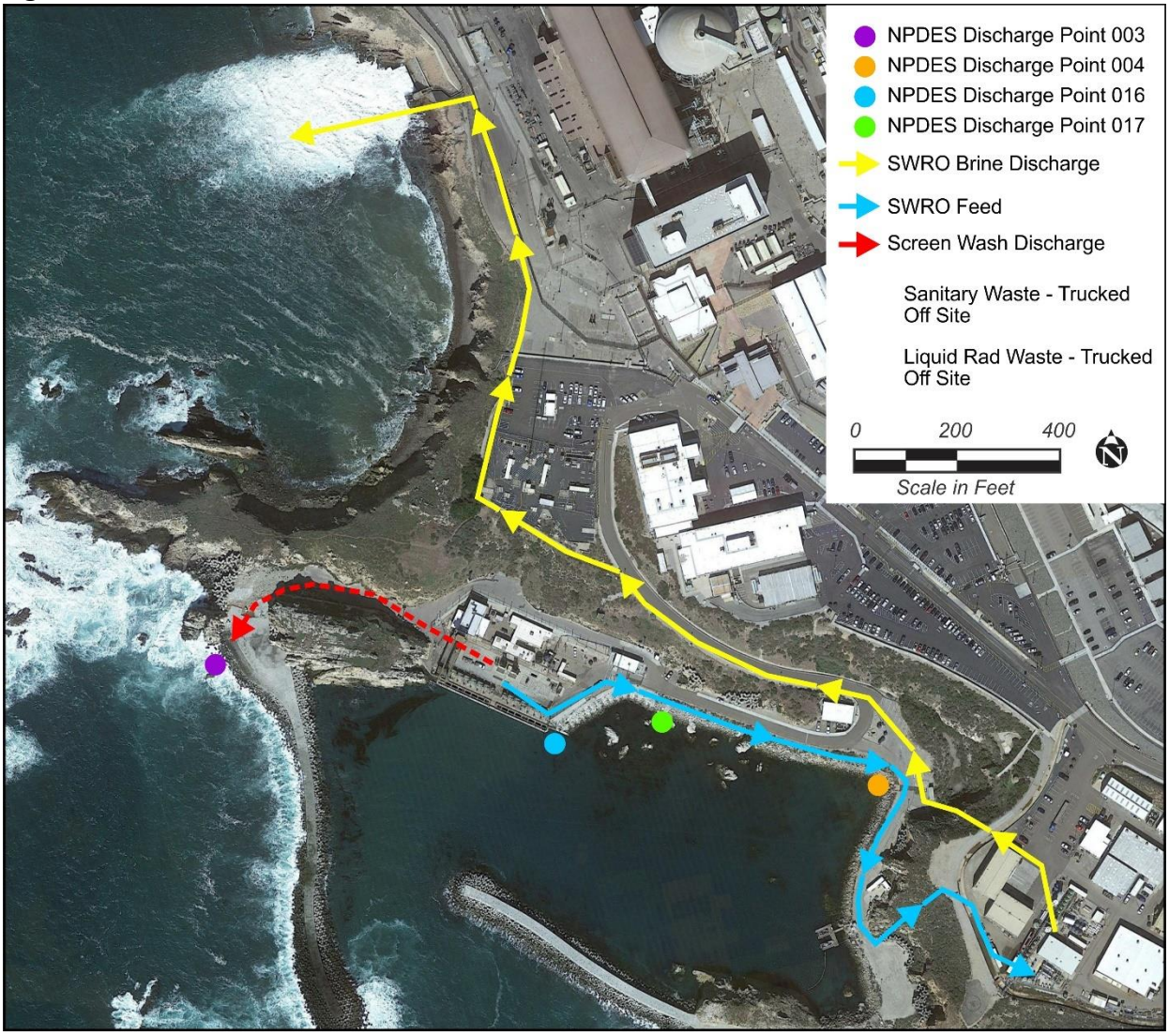


Source: PG&E, 2021e – PD-8/Appendix E, revised Figure 2.3.21-1.

As noted in Section 2.3.14, a cofferdam would be installed prior to demolition of the Discharge Structure. To facilitate brine discharges from the SWRO while the cofferdam is in place, a temporary PVC pipe approximately 8-10 inches in diameter would be installed aboveground from the SWRO to Diablo Cove; the pipe would be placed underground at road crossings, as necessary. The pipe would be anchored to the bluff after it exits the SWRO and extend to the Discharge Structure, over or adjacent to the cofferdam (when cofferdam is installed), and then continue for a distance within Diablo Cove. A diffuser is anticipated to be installed at the end of the pipe. Figure 2-33 shows the general alignment of the aboveground pipe and the flow path during the period of redirected flow, which starts prior to removal of the Discharge Structure and through 2034.

To support the Period of Redirected Flow, PG&E would need to obtain either an amendment to NPDES No. CA0003571 or a new NPDES permit. This period starts prior to removal of the Discharge Structure (~2028) and concludes when the SWRO is no longer in operation (end of 2034).

Figure 2-33. Period of Redirected Flow



Liquid Radiological Waste Effluent System Discharge. After all the SNF has been transferred from the SFPs to the ISFSI (2029), the primary systems, including the SFPs, can be dismantled. The primary system dismantling process would generate LRW, which requires dilution via the ASWS prior to disposal. LRW would continue to be produced for a while after all the SNF has been transferred from the SFPs.

In the early stages of decommissioning, much of this inventory would be collected, processed, and monitored by the existing plant equipment. While the auxiliary saltwater pumps are in operation, systems containing LRW would be drained to the LRW processing system to be filtered and diluted, discharged through currently identified Discharge Point 001D, and then flow into the ocean through Discharge Point 001B. The levels of radioactive material that can be filtered out would be below the levels currently established. Because tritium cannot be removed through conventional treatment methods, the availability of a dilution source (i.e., the auxiliary saltwater system) is required to dilute the tritium concentration in the effluent prior to discharge.

Sanitary Wastewater Discharge. The last major source of wastewater discharge would be through the sanitary wastewater treatment plant. This plant would continue to be used to maximize the use of existing infrastructure and would support the decommissioning office building (see Figures 2-8 and 2-9). As the number of personnel decreases and site infrastructure is removed, this sanitary wastewater treatment plant would be removed and replaced at the end of Phase 1 (2031) with portable toilets (temporary during construction) with waste trucked off site. To support the revised OCA. the existing septic system located in the East Canyon Area would be upgraded, or a new septic system established to ensure consistency with County ordinances and Regional Water Quality Control Board requirements, as appropriate (see Section 2.3.3).

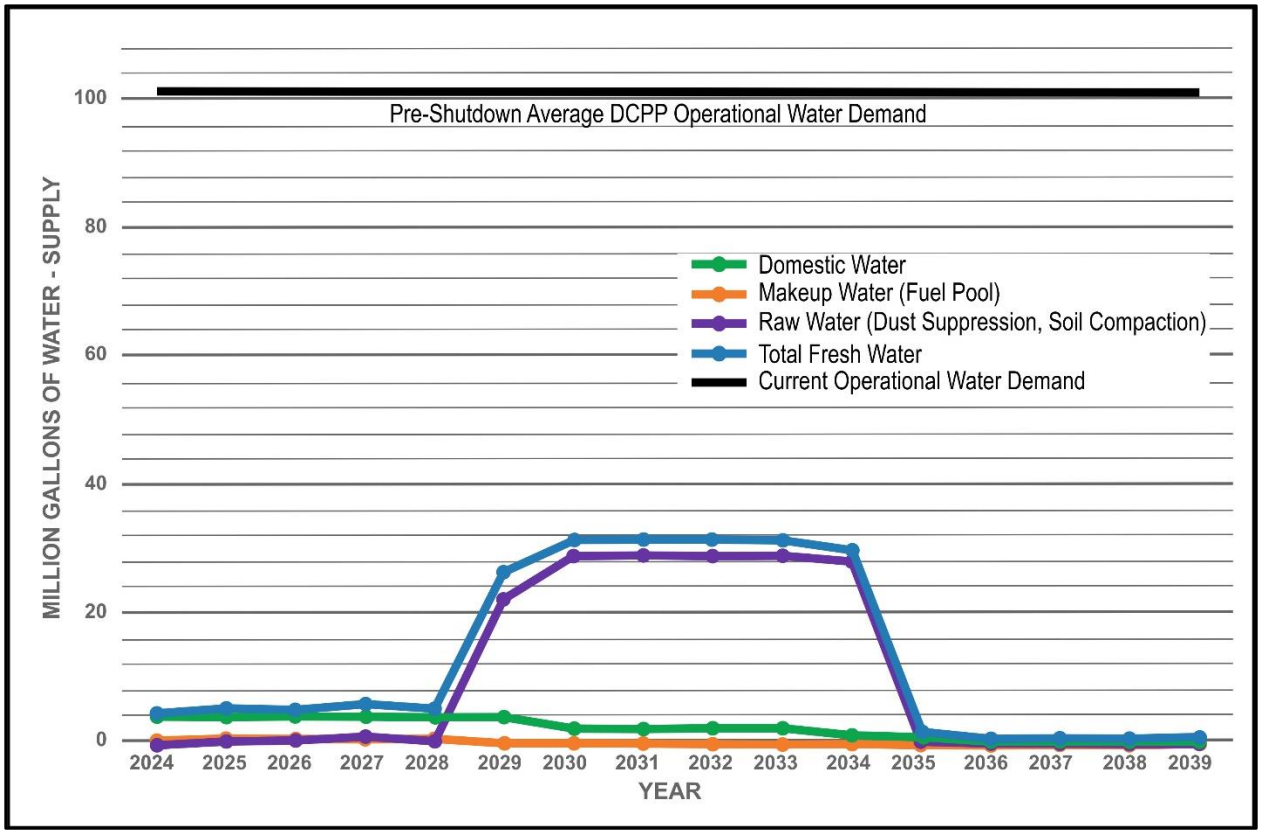
Freshwater Production. SWRO is the primary source of onsite water and Well #2 (deep groundwater well) is the secondary source of water during DCPP operations, and they would continue to be the primary source and secondary source of onsite water during the majority of DCPP decommissioning. At the end of 2034, the SWRO would shut down, and onsite water needs for decommissioning would be met via groundwater extraction (PG&E, 2022h). As noted above, for current DCPP operations, water demand is met from both SWRO and groundwater (Well #2). Over the past 5 years, the average annual water demand at DCPP has been approximately 101 million gallons, of which 90 million has been for power production and the remaining 11 million has been for domestic water supply. The demand has been met primarily through SWRO with some blending via groundwater from Well #2.

Water demand estimates during decommissioning and restoration includes a 16-year period from 2024 to 2039 (covering Phase 1 and Phase 2) that depict using existing plant equipment (i.e., SWRO through 2034 and Well #2 throughout decommissioning), then on-site groundwater post-2034, when mostly all demolition activities are complete. As noted in Figure 2-34, water demand increases from about 5.5 million gallons in 2028 to approximately 32 million gallons by 2030.[9] This increase in water demand is due to the need for dust control, dilution of waste streams, and watering for site restoration.

Through 2034, water demand would be met primarily via SWRO and augmented via on-site groundwater. Starting in 2035 when the SWRO is no longer in operation, and through post-restoration performance monitoring (2039), water use is projected to decrease and level out at 764,000 gallons per year (maximum 50% would be potable water demand) for completion of the remaining decommissioning activities and vegetation watering (PG&E, 2021e – PD-10). Well #2 has been shown to have adequate capacity to meet this water need; however, additional on-site wells such as Well #5 may be used (PG&E, 2022f; PG&E, 2022h). Post-decommissioning (after 2039), annual water demand for ISFSI and GTCC Waste Storage Facility operations would decrease after completion of decommissioning activities and vegetation water and would level out at approximately 215,000 gallons per year and met through groundwater extraction. Bottled water (i.e., Culligan Water) would continue to be trucked in for drinking purposes as is currently done at the DCPP site (PG&E, 2022h).

[9] During the period 2016 through 2020, the total average annual water demand at the DCPP was 101 million gallons. This consisted of an average annual demand of 90 million gallons for power production and 11 million gallons for domestic water during the 5-year period.

Figure 2-34. Yearly Fresh Water Supply Needs During Decommissioning/ Restoration



Source: PG&E, 2021a – Figure 2.3.21-3.

2.3.21 Soil Remediation

As discussed in Section 2.3.7, an HSA was performed to collect and document existing information regarding the potential for radiological contamination of structures and areas across the DCPP site. The results of this assessment were prepared consistent with industry standards and identified areas of the DCPP site as either "impacted" or "non-impacted." Under the HSA, the entire DCPP site was divided into nine areas, with two of these nine areas identified as "non-impacted" from a radiological standpoint. These non-impacted areas include the North Site Area of approximately 154 acres (625,000 square meters [m^2]) and the South Site Area of approximately 402 acres (1,628,000 m^2). As both areas are non-impacted from a radiological standpoint, no soil remediation is required or planned in these two areas.

The remaining seven areas defined as "impacted" under the HSA include structures or areas with radiological impacts. The radiological areas were further classified according to the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) methods.

Using the MARSSIM definitions, areas identified as Class 1 would be subject to remediation, as the current level of radionuclides on structures and/or soil within these areas are above the anticipated Derived Concentration Guideline Level (DCGL) that equate to the NRC-approved site release criteria. While Class 3 areas were identified, the concentration of radionuclides in Class 3 areas are already below the anticipated DCGL values that equate to the NRC-approved site release criteria. As such, remediation of Class 3 areas is not considered.

The preliminary Class 1 areas identified within the HSA constitute approximately 30 acres (121,625 m^2) with a total estimated volume of approximately 15,930 CY. For these Class 1 areas, remediation is assumed to include the removal of hardened surfaces (i.e., asphalt, concrete, etc.) and soil that are characterized with radionuclide concentrations above the DCGLs. Additional site characterization activities would include the collection of soil (surface and subsurface), asphalt, concrete, and sediment samples for additional radiological analysis. The results of these characterization samples would further refine the locations, volumes, and depths of radiological impacts that would be remediated.

Soil remediation activities anticipated to occur in Phase 1, as shown in Figure 2-35, include the following (PG&E, 2021c):

- Existing Firing Range – Chemical remediation
- Power Block (within PA fence line) – Turbine Building, Containment Domes, Transformers, etc.
- Discharge Structure Area – If chemical remediation or radiological remediation is required
- East Canyon Area (Zone 12 in Figure 2-12) – Chemical remediation

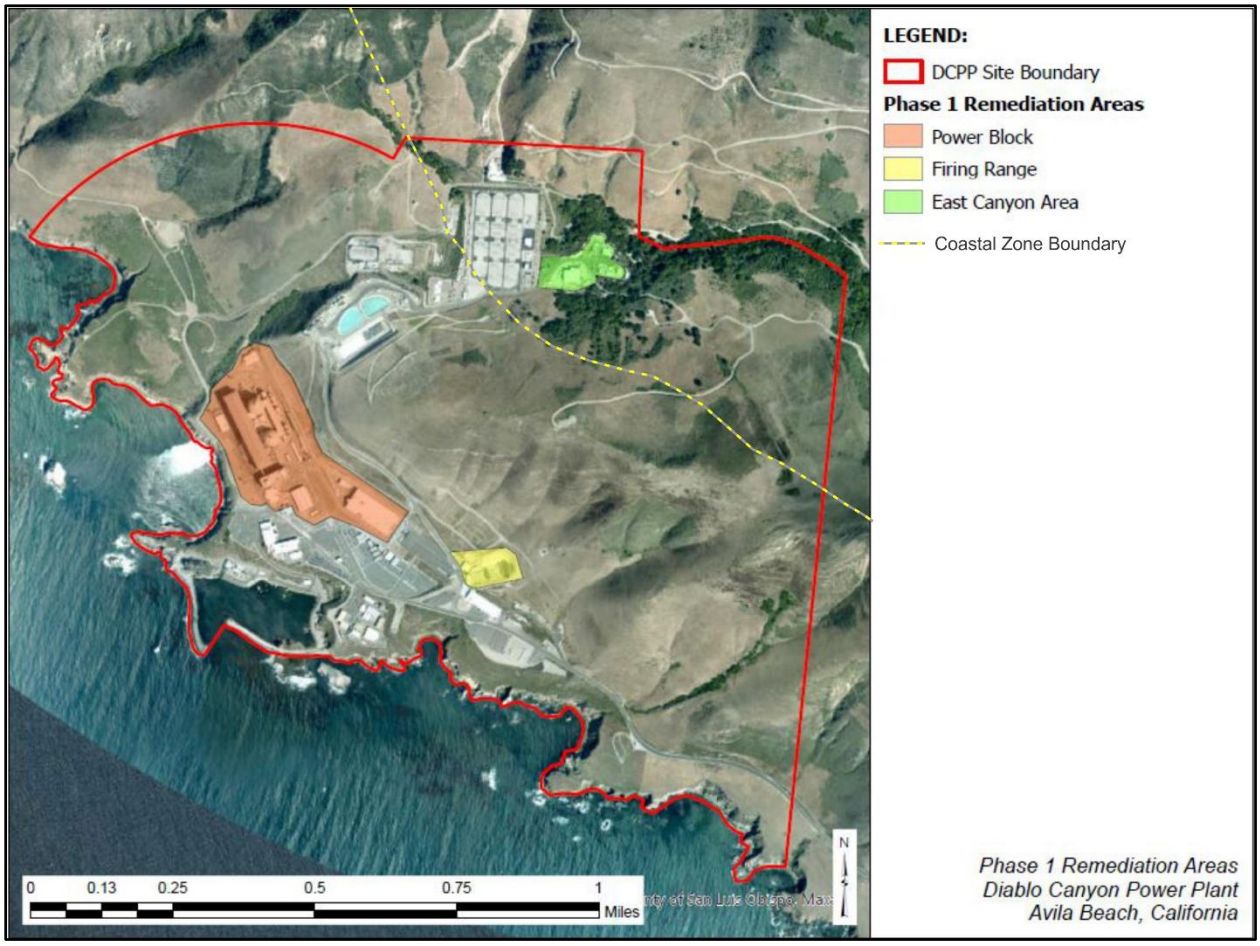
All other areas with the DCPP site requiring soil remediation would be remediated in Phase 2. These areas are to be identified through the SCS, which is expected to be completed in 2024, at which point the areas and level of effort would be determined (PG&E, 2021e – PD-11).

Radiologically contaminated material from remedial activities would be transported and disposed of offsite as radioactive waste as discussed in Section 2.3.19.

The radiological remediation activities may be performed throughout the decommissioning process. For areas within the PA, remediation could commence after adjacent buildings are removed. At a minimum, remediation is anticipated to include physical removal methods with equipment including excavators and backhoes, and articulated equipment with variable tool heads, shovels, and vacuum excavators. During remediation activities, BMPs (such as equipment decontamination) would be implemented to prevent the spread of contamination. Dust control measures would be implemented in the excavation areas, and contaminated material would be segregated and stockpiled under a soil management plan.

After contaminated areas have been remediated, post-remediation sampling would be performed within each area to determine whether radionuclide concentrations on residual surfaces and/or soil are below DCGLs. Remediation performance sampling would be performed through a combination of collecting samples for laboratory analysis, as well as using field surveys and calibrated detectors. If concentrations above the DCGL are identified, the area would be subject to additional remediation activities. Once an area has been successfully remediated below the DCGL values, the area would be turned over to the FSS team to complete sampling. FSS would be completed to confirm that all residual levels of radionuclides at the DCPP site have been decreased to levels below the site-specific DCGLs that equate to the NRC-approved site release criteria. The objective of the surveys is to support the termination of the NRC Part 50 facility operating licenses for Units 1 and 2 (see Section 2.3.22).

Figure 2-35. Phase 1 DCPP Site Remediation Areas



Source: PG&E, 2021e – PD-11/Appendix F.

[1] See Figure 2-28 for the restoration area associated with the Discharge Structure area.

2.3.21.1 Groundwater Remediation

Well #2 is an on-site source of drinking water in addition to the SWRO Facility. Well #2 is located east of the 500 kV switchyard. In accordance with the Nuclear Energy Institute (NEI) 07-07 Groundwater Protection Initiative, tritium monitoring in groundwater at DCPP began in 2006 as part of the Radiological Environmental Monitoring Program (REMP) (PG&E, 2020a). Groundwater is sampled at several on-site wells, including Well #2, to monitor tritium. Results of the REMP are submitted to local, state, and federal agencies on an annual basis via the Annual Radiological Environmental Operating Report.

Based on the groundwater monitoring at the site, tritium has not been identified in Well #2. Tritium has only been identified as a plant-related nuclide in groundwater around the Power Block. The source of tritium has been attributed to recapture of gaseous effluents, which would cease as a source after the plant internals have been drained. Historically, concentrations of tritium in groundwater at DCPP have exceeded the USEPA drinking water standard of 20,000 picocuries per liter (pCi/L). Assuming tritium concentrations in groundwater are above 20,000 pCi/L prior to termination of the NRC Part 50 facility operating license, a long-term groundwater monitoring plan is anticipated to meet requirements under the Memorandum of Understanding,

"Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites" signed between the USEPA and the NRC in 2002. The purpose of the long-term monitoring program would be to demonstrate the attenuation of tritium to levels below 20,000 pCi/L in the DCPP site monitoring wells.

Based on the planned cessation (ending) of the tritium recapture pathway early in the Project, and a historical maximum detection of 64,800 pCi/L of tritium in groundwater, a 5-year groundwater monitoring program is assumed following NRC Part 50 facility operating license termination. A 5-year period is assumed based on the conservative transport properties of tritium, and historical maximum levels that are three times the drinking water standard.

DCPP currently monitors six groundwater wells for analysis in accordance with plant procedures for both chemical and radiological constituents. During completion of the SCS, up to approximately 28 additional temporary monitoring wells may be installed (total number to be determined as part of the SCS) (PG&E, 2021e – PD-9). During the monitoring program, the groundwater monitoring wells, including newly installed wells, would be sampled on a quarterly basis to demonstrate the attenuation of tritium concentrations to levels below 20,000 pCi/L. Groundwater samples would be collected using low flow techniques, with samples analyzed at an offsite laboratory. Semi-annual groundwater monitoring reports would be prepared during the 5-year monitoring program.

The DCPP HSA indicates that known and documented releases have occurred at the three following areas of concern (AOCs) and would likely require remediation.

AOC 5-1: Diesel Underground Storage Tanks (USTs). Although impacted soil was previously remediated when two 50,000-gallon USTs were installed to replace three carbon steel USTs that had leaked, residual soil and potentially groundwater contamination may exist. The location is outside the Unit 1 turbine building buttress.

AOC 5-3: Unit 1 Transformer Yard. A Unit 1 transformer yard and oil water separator is located off the northeast corner of the turbine building and has had documented releases of transformer oils and radionuclide-impacted water to this area. The U-1 oil water separator drains directly north into Diablo Creek. Additionally, fire suppression foam was reportedly applied to extinguish a transformer fire.

Potential chemicals of concern for this AOC include volatile organic compounds, semi-volatile organic compound (polycyclic aromatic hydrocarbons), perfluorooctanoic acids, polychlorinated biphenyls, total petroleum hydrocarbons, and Title 22 metals.

AOC 5-4: Unit 2 Transformer Yard. The Unit 2 transformer yard and oil water separator is located off the southeast corner of the turbine building where it drains to an outlet directly east of the simulator building, and ultimately to the ocean. There have been reports of equipment failures and fires resulting in the release of transformer oils to the ground in this area. Additionally, fire suppression foam was reportedly applied to extinguish a transformer fire in this AOC in 2008.

Potential chemicals of concern for this AOC include volatile organic compounds, semi-volatile organic compound (polycyclic aromatic hydrocarbons), perfluorooctanoic acids, polychlorinated biphenyls, total petroleum hydrocarbons, and Title 22 metals.

2.3.22 Final Status Surveys

Pursuant to NRC requirements, Final Status Surveys (FSS) would be completed at the DCPP site following completion of radiological soil remediation activities in a particular area. The purpose of the survey is to confirm that all residual levels of radionuclides at the DCPP site have been decreased to levels below the site-specific DCGLs that equate to the NRC-approved site release criteria. The objective of the surveys is to support the termination of the NRC Part 50 facility operating licenses for Units 1 and 2. The methodology and approach for completing the FSS is unknown at this time and would not be determined until the SCS (see Section 2.3.7) is completed (PG&E, 2021b – GC-3).

2.3.23 Site Conditions at End of Phase 1

Following completion of Phase 1 activities, which is expected to occur by 2031, the DCPP Unit 1 and Unit 2 areas would be decommissioned and most of the other above-grade structures and some below-grade structures that would not be retained would have been removed from the site, as required, to meet radioactivity release criteria in accordance with NRC regulations for unrestricted site use (see Section 2.3.12 and Figure 2-16). In addition, all SNF and GTCC waste would have been transferred to the ISFSI and GTCC Waste Storage Facility for long-term storage within a revised OCA (see Figure 2-17). Some site restoration activities, such as removal of utilities and ancillary structures, soil remediation, and grading and landscaping may also have been completed.

Section 2.4 describes the remaining utilities and structures demolition, soil remediation, and site restoration activities that would occur as part of Phase 2 of the Project.

Fire Protection. Fire protection services at the DCPP would transition from the Diablo Canyon Fire Department (DCFD) to the San Luis Obispo County Fire when all SNF has been moved to the ISFSI. SNF would be moved to the ISFSI within 4 years after Unit 2 shutdown (i.e., by August 2029 based on the Unit 2 license expiration in August 2025). Conversely, a fire brigade could be established for meeting the fire protection requirements during the remainder of DCPP decommissioning once all SNF has been transferred to the ISFSI. (PG&E, 2021b – UPS-2)

The transition process would involve having some DCFD personnel remain on site for a period after all the SNF is transferred to the ISFSI to provide on-site emergency point-of-contact, to share institutional knowledge, and provide necessary training. PG&E would also evaluate utilizing a fire brigade (consistent with 10 CFR 50.48). (PG&E, 2021b – UPS-2)

PG&E's staffing plan budgets for 13 full-time equivalent personnel (fire brigade + 1 fire captain) for the first approximately 18 months after the reactors shutdown and operations cease, and 6 full-time equivalent personnel (fire brigade + 1 fire captain) until all SNF is transferred to the ISFSI. After all fuel is in the ISFSI, no fire brigade is budgeted and the DCPP site would be dependent on San Luis Obispo County Fire. (PG&E, 2022b – DR#5-5)

San Luis Obispo County Fire and PG&E cooperated in preparing the existing Operational Plan for the unified response in the event of an incident at the DCPP. This Operational Plan is jointly

reviewed and updated, as necessary, on an annual basis. The Operational Plan addresses the following items (PG&E, 2021b – UPS-2):

- Authorities
- Training and Drills
- Fire Fighting Pre-Plans
- Incident Command System
- Dispatch and Notification
- Communications
- Security
- Radiation Protection
- Safety
- Support Capabilities

The Operational Plan was last updated on May 12, 2021 and would be amended to specify the terms of the transition process for fire protection services from DCFD to solely San Luis Obispo County Fire.

2.4 Proposed Project Activities Phase 2 – Completion of Soil Remediation, Final Status Surveys, and Final Site Restoration (2032-2039)

By the end of 2031, Units 1 and 2 would be decommissioned and buildings demolished. Activities in Phase 2 include contaminant remediation, demolition of remaining utilities and structures, soil grading and landscaping, long-term stormwater management, closure of the Intake Structure, and continued Discharge Structure removal and restoration activities. Finally, the DCPP site would be evaluated in the FSS for radiological content prior to NRC Part 50 facility operating license termination.

Phase 2 also includes transitioning to ISFSI/GTCC waste storage-only operations.

2.4.1 Soil Remediation

Soil remediation, as described in Section 2.3.21, would be completed for the Part 50 licensed area, except for the Firing Range, Power Block, Discharge Structure Area, and East Canyon Area as these would be remediated during Phase 1.

2.4.2 Final Status Surveys

FSS described in Section 2.3.22 would continue and be completed in Phase 2 for the Part 50 licensed area.

2.4.3 NRC Part 50 Facility Operating Licenses Termination

In accordance with 10 CFR 50.82(a)(9), power reactor licensees are required to submit a License Termination Plan (LTP) at least 2 years before termination of the NRC Part 50 facility operating licenses. The LTP must include the following elements:

- site characterization
- identification of remaining dismantlement activities
- plans for site remediation
- detailed plans for the final radiation survey (e.g., FSS)
- description of end use for the site, if restricted
- updated site-specific estimate of remaining decommissioning costs

- supplement to the environmental report
- identification of any parts of the facility or site released for use before approval of the LTP

Following NRC review of the LTP, the NRC provides approval through issuance of a license amendment. In accordance with 10 CFR 50.82(a)(11), the NRC would terminate the NRC Part 50 facility operating license if:

- NRC determines that the remaining dismantlement has been performed in accordance with the approved LTP, and
- final radiation survey and associated documentation, including an assessment of dose contributions associated with parts released for use before approval of the LTP, demonstrate that the facility and site have met the criteria for decommissioning in 10 CFR 20, subpart E.

At the point of terminating the licenses, the site would meet radioactivity release criteria for unrestricted use, in accordance with NRC regulations.

2.4.4 Grading and Landscaping (Final Site Restoration)

By the end of Phase 1, most structures (except for those that remain as shown in Figure 2-16) at the DCPP site would be decommissioned. In Phase 2, filling former building foundations and the former Firing Range would be completed along with grading and landscaping per the FSR Plan. Those areas not retained would be reclaimed after demolitions by scarifying, regrading, and revegetating. Roads to be closed would be scarified to remove compaction and regraded to blend in with the local topography, limit erosion, and promote natural drainage. Culverts would be removed where necessary and the disturbed area regraded to allow for unobstructed drainage. Material that was excavated and placed on the downslope of roads constructed on hillsides would be excavated using earthmoving equipment for placement and final grading of the road surface. Only minor scarification, regrading, and revegetation would be required to return trails to their natural topography and to provide proper drainage.

For Phase 2, PG&E would prepare a Revegetation Plan. Previous mitigation commitments for projects at DCPP have required that revegetation plans provide for development of long-term native plant cover compatible with surrounding areas of undisturbed native vegetation and wildlife habitat using local genetic sources of seed or cuttings for all native plant material. This same restoration goal would be adopted for DCPP FSR. Following grading to return areas to natural contours, areas would be revegetated to establish native vegetation that is consistent with native plant communities and wildlife habitat. Although there may be some differences in specific species composition in revegetated areas, seed mixes would be developed that have species mixes similar to adjacent reference areas. Furthermore, local genetic sources of native plant materials would be used to avoid genetic contamination of local plant populations.

During grading, disturbance would be limited to the maximum extent practicable. Existing vegetation would be protected as much as possible. Temporary barriers such as fences would be used to restrict access to sensitive vegetation or revegetated areas. Signs would also be installed to delineate revegetated areas. The temporary fencing and signage would be left in place until vegetation becomes established. Standard Best Management Practices (BMP) for sediment and erosion control would be implemented during site construction and site grading. Applicable

BMPs may include surface roughening, mulching, and installation of silt fences and straw bale barriers, which would reduce erosion and sedimentation rates during vegetation establishment. Sediment control structures would be inspected and maintained until vegetation becomes adequately established.

If any clearing of previously undisturbed areas is required, topsoil would be removed and stockpiled as part of surface clearing activities. Several general guidelines would be followed when stockpiling soils:

- The height of soil stockpiles would be limited to the extent possible to minimize compaction and to maintain the integrity of soils.
- Soil material would not be handled when it is too wet or too dry. Generally, the best time to handle soils is when they are barely moist, but not damp or wet.

Currently, the need to amend topsoil through the application of fertilizer is not anticipated; however, topsoil quality would be tested to confirm that it does not require any amendments. Native seed mixes would also be used, which would limit the need for soil amendments. For planning purposes, it was assumed that topsoil would either be imported from an off-site source within the County of San Luis Obispo to meet the volume and quality requirement, with local reuse where possible; or be mixed with soil cut from the SE Borrow Site or in situ (i.e., native, local, or original) soil to meet topsoil requirements. With full backfill of the Firing Range, borrow for topsoil would come from the SE Borrow site. The topsoil from the SE Borrow site would be removed, temporarily stored nearby, and reused at the SE Borrow site with an addition of amendment, if needed, for revegetation of the SE Borrow site. The soil amendments would be mixed with the soil from the SE Borrow site to be used as backfill for the Firing Range. The amendment would only be mixed with the top three inches of soil from the SE Borrow site used for backfill at the Firing Range to create a topsoil for revegetation at the Firing Range.

Based on full backfill of the Firing Range, a total volume of topsoil required would be approximately 38,774 CY, with 3,779 CY available for salvage and 34,995 CY needing to be imported (PG&E, 2022b – Enclosure 2, Attachment C, Table 3). An estimated 1,760 truck trips would be needed to transport the required quantity of topsoil (PG&E, 2022b – Enclosure 1), based on an assumed 20 CY of amendment per truck trip (assumes use of a tracker trailer end dump [a.k.a. dump trailer] or Super Dump Truck, which can hold up to 36 CY with high side walls). If a soil amendment were to be utilized instead, the total volume of import required would be approximately 1,939 CY (PG&E, 2022b – Enclosure 2, Attachment C, Table 3).

Stockpiled soils would be redistributed as part of reclamation activities where available. However, on-site sources of stockpiled topsoil are believed to be somewhat limited, and consequently, additional topsoil would need to be brought on site from other sources. For areas that lack suitable plant growth materials, additional topsoil would be used to create an adequate plant growth medium. Prior to bringing any topsoil on site, it would be tested to confirm its agronomic properties. Topsoil would only be imported from local sources within the County of San Luis Obispo (assumed to be available within 77.1 miles one-way from the DCPP site [PG&E, 2022b – Enclosure 1]) so that it has similar properties to DCPP site soils in undisturbed areas.

Imported topsoil would have the following attributes:

- consist of fertile, friable soil of loamy character that contains organic matter in quantities natural to the region and that is capable of sustaining healthy plant life
- free of substances such as litter, refuse, toxic waste, sand, heavy or stiff clay, brush, sticks, grasses, roots, noxious weed seed, weeds, and other substances that could be detrimental to plant, animal, and human health
- consist of a soluble salt content of topsoil that does not exceed 500 parts per million.

Hydromulch would be used to reduce erosion potential and foster vegetation establishment on newly seeded areas. Mulch is primarily used for moisture conservation and soil stabilization. Care would be taken when using mulch because it may contain weed seeds. Only weed-free and seed-free mulch would be used for this Project. Mycorrhizae would be added to the hydroseed mixture to facilitate establishment of vegetation.

A planting schedule would be developed as part of the Revegetation Plan. In general, reseeding and planting would occur during the first fall following the completion of grading and prior to the rainy season. Similarly, container plants would be installed between October 1 and November 15. Seed and mycorrhizae would be applied via the hydroseeding immediately following container plant installation, but not later than November 22. It is anticipated that re-seeding and planting activities would be completed following construction for transition zone areas.

Reseeded areas would be monitored to evaluate vegetation establishment, erosion and sediment control, and noxious weed establishment. Reseeded areas would be observed several times during the first two growing seasons. Seeded and planted areas would be monitored to determine seedling survival and overall revegetation success. Areas of excessive erosion or sedimentation would also be documented. The establishment of noxious weeds would be monitored. Areas with poor vegetation establishment or areas exhibiting excessive erosion or sedimentation would be repaired and stabilized. In the case that noxious weeds are observed, they would be treated using the appropriate physical, chemical, or biological methods.

2.4.5 Long-Term Stormwater Management

As part of the overall site restoration design, a post-Final Site Restoration (FSR) construction Stormwater Management Plan (SWMP) would be prepared in accordance with the Low Impact Development (LID) requirements of the Central Coast Regional Water Quality Control Board, and any additional conditions as part of a 401 Water Quality Certification. The purpose of the SWMP is to implement long-term management of stormwater drainage from the site over the period of time required for revegetation to establish, and to minimize any sediment impacts from the site to Diablo Creek and the Pacific Ocean. The SWMP would include an analysis of the site hydrology and a design of post-grading stormwater conveyance systems and a post-construction monitoring program to support successful restoration. In addition to construction storm water management design, excavation and grading plans that are part of the FSR design would include designs to configure post-construction site drainage consistent with LID principles to convey and discharge runoff in a non-erosive manner and minimize potential off-site stormwater impacts. The LID design techniques are designed to protect and enhance surrounding habitat resources by minimizing impervious surfaces and promoting on-site infiltration and management of

stormwater runoff through developing a network of vegetated swales (or similar) strategically located within the site and designed to retain and treat stormwater flows.

Where appropriate, existing stormwater management features, such as basins, would be recontoured and connected to the newly graded site. This Project would result in a net reduction in impervious area to return the site to predevelopment conditions.

LID and, where necessary, conventional stormwater management techniques would be designed to control rates of runoff using accepted methods of hydrologic and hydraulic analysis. The goal would be to design SWMP features that support restoration of the site to pre-project hydrology and water quality. SWMP features to be considered include, but are not limited to, revegetation, vegetated swales, and basins. As necessary, natural rock riprap or turf reinforced mats may be placed along channels and slopes as reinforcement and biodegradable fiber rolls may be placed on slopes to spread runoff as sheet flow while the post-grading revegetation is taking root. Use of these features would be minimized as much as feasible to maintain natural conditions but may be necessary for erosion and sediment control.

It is expected that the site revegetation would fully establish as effective erosion control within 5 years of planting. The goal is for vegetation to be reestablished within 3 years of seeding to meet stormwater and revegetation criteria. However, depending on seasonal precipitation and given the site's relatively arid environment, a 5-year period was assumed for vegetation to be reestablished to meet stormwater and revegetation criteria.

The SWMP would include an Operation, Monitoring, and Maintenance (OM&M) Plan to monitor and maintain the effectiveness of the SWMP features. The OM&M Plan would consist of monitoring by a Qualified Storm Water Practitioner, or trained delegate, until the Notice of Termination for coverage under the CGP is accepted (final stabilization is reached). The OM&M Plan within the SWMP would describe the expected types and frequency of maintenance activities that would be implemented to support the stormwater features effectively conveying stormwater runoff through the site. Maintenance activities may include, but are not limited to, the following: removal of sediment from conveyance swales, repair of riprap, and maintenance of fiber rolls. Natural stormwater management features would be selected for final implementation to the extent practicable. Maintenance of the features should not be required after the site vegetation is fully established.

2.4.6 Intake Structure Closure

Once the ASWS and SWRO system are shutdown at the end of 2034, the openings of the Intake Structure would be sealed with concrete bulkheads. The bulkheads would not have exposed steel and would be located below low tide and therefore not be visible above water. The bulkheads would be comprised of ECOncrete (textured on the outside face) to enhance the biological productivity of the concrete surface. The bulkheads would be installed prior to filling of the Intake Structure. Intake Structure closure would occur during Phase 2 of the Proposed Project.

A temporary steel form would be used to construct the bulkheads. The temporary forms are designed based on the largest opening of 24.5-feet-tall and 12.5-feet-wide. For ease of forming, the bulkheads would be 2-feet-thick, matching the existing thickness of the Intake Structure

walls. There are a total of 16 openings of varying sizes requiring a total concrete volume of approximately 334 cubic yards.

The exterior temporary steel form would toe into the sand/mudline at the foundation of the Intake Structure. The top and sides of the temporary steel form may be anchored into the face of the Intake Structure. If possible, the interior forms would utilize the screen guide channels. If the screen guides are not accessible, steel angles would be anchored to the interior walls of the structure and allow the interior forms to bear against the angle. The temporary steel forms would utilize fiberglass form ties to avoid any exposed steel on the surface.

A proper seal on the exterior form would be required prior to installing the interior forms and pouring the concrete bulkheads. The most difficult seal would be at the radiused walls at the Intake Structure opening. To close this area, a steel angle would be used with a tremie pour grout seal. The steel angle would be removed once the grout has cured, and prior to installing the interior forms.

Once sealed, the Intake Structure would be filled. The interior of all the Intake Structure comprises a total volume of 11,840 CY, which would be filled with CLSM. Therefore, approximately 7,900 CY of crushed concrete can be used as aggregate in the CLSM (PG&E, 2022e, 2023a).

2.4.7 Blufftop Road Segment

Following DCPP decommissioning final site restoration, Diablo Canyon Road (primary access road) would function as the main ingress/egress to the DCPP site. Diablo Canyon Road is approximately 7 miles long between Avila Beach Drive and the DCPP site and consists of two 12-foot paved travel lanes with approximately 4-foot paved shoulders. To the north of the DCPP site is the existing North Ranch Road/Pecho Valley Road, which is a 4.5-mile secondary access road improved in 2020 and 2021 to facilitate better County Fire Department emergency access to the site. A blufftop road segment would be established at the end of DCPP decommissioning to connect Shore Cliff Road with North Ranch Road/ Pecho Valley Road. The road would be established in front of the Power Block area and traverse over Diablo Creek via an existing culverted road. The existing barriers on top of the culverted road over Diablo Creek, which were erected for DCPP security purposes, would be removed as part of DCPP decommissioning. Figure 2-36 shows the existing conditions and the blufftop road segment following decommissioning, along with Marina improvements (see Section 2.7, *Future Actions – Retain Marina for Permitting and Reuse by Third Party*).

North Ranch Road/Pecho Valley Road currently supports access to 230 kV and 500 kV Transmission towers and would continue to do so after DCPP decommissioning. North Ranch Road/ Pecho Valley Road also supports ranching/land management activities for the North Ranch.

North Ranch Road/Pecho Valley Road and Shore Cliff Road from the north and Diablo Canyon Road/Diablo Ocean Drive from the south would provide emergency access, allowing County Fire Department emergency vehicles to access the site from Avila Beach Drive and from Montaña de Oro State Park. Shore Cliff Road connecting North Ranch Road/Pecho Valley Road and Diablo Canyon Road/Diablo Ocean Drive would also restore historic access through the Diablo Canyon lands. North Ranch Road/Pecho Valley Road would continue to operate as a private road and would not be available for public use.

Figure 2-36. Existing Conditions and Post-Decommissioning with Road and Marina Improvements

2.5 Project Schedule and Workforce

2.5.1 Project Schedule

Table 2-10 provides a preliminary schedule for Phase 1 and 2 decommissioning activities.

Table 2-10. Preliminary Milestone Schedule

Phase	Description	Start	Finish
1	Shutdown of Unit 1	—	11/2/2024
1	Cold and Dark Modifications	11/4/2024	7/22/2027
1	Shutdown of Unit 2	—	8/26/2025
1	Site Infrastructure Modifications	12/2/2024	6/10/2030
1	System and Area Closure	12/4/2024	1/15/2031
1	Site Characterization Study	12/2/2024	4/25/2026
1	Large Component Removal	12/2/2024	10/15/2029
1	Decontamination	12/2/2024	12/1/2031
1&2	Building Demolition	12/2/2024	3/30/2034
1	Construction of Waste Storage Facilities	2/3/2025	7/29/2026
1	Reactor Pressure Vessel and Internals Removal and Disposal	7/28/2026	5/9/2030
1	Spent Fuel and GTCC Waste Transfer	6/8/2027	8/23/2029
1	Discharge Structure Removal and Restoration	2/12/2030	4/30/2033
1&2	Soil Remediation	12/2/2024	12/14/2034
1&2	Final Status Surveys	12/2/2024	1/3/2034
1	Railyard Facility Modifications (PBR, SMVR-SB)	12/2/2024	12/31/2025
2	Part 50 License Termination	—	12/14/2034
2	Final Site Restoration (including Firing Range)/Monitoring	9/1/2032	12/14/2039

Source: PG&E, 2021a – Table2.1-2; PG&E, 2021c – PD-3; PG&E, 2022g. Acronym: GTCC = Greater Than Class C

Note: Dates subject to change pending execution of contracts to complete the scopes of work. If PG&E were to be approved for extended operations of DCPP (see Section ES.1, *Background, Project Location, and Project Scope*), the VCT Warehouse, Security Warehouse, and Office (to support decommissioning) may be constructed prior to DCPP being shut down, and the remaining decommissioning activities would follow after shutdown. See Section 5.4.7, *Delayed Decommissioning Alternative*.

2.5.2 Staffing Requirements

DCPP site staffing would fluctuate as DCPP decommissioning progresses. PG&E is expecting to have a linear reduction in the overall staffing at the site as DCPP operations progress to shutdown of Units 1 and 2. Currently, there are between approximately 1,157 and 1,400 workers on site during typical operating conditions to support existing operations.

During decommissioning, DCPP staffing levels would change, depending on the work being performed and the location of the SNF (affects the level of security workforce required). A total of approximately 870 workers are anticipated in Phase 1 and approximately 270 workers in Phase 2 (PG&E, 2021b – GC-4). A portion of that would be PG&E staffing, which is expected to have a peak of 490 workers and an average of 420 workers in Phase 1, and a peak of 165 workers and

an average of 160 workers in Phase 2 (PG&E, 2021b – GC-4). These numbers include the security force members that are on site in shifts around the clock. The first large decrease in staffing is expected to occur when the transfer of SNF to ISFSI is complete in 2029. From that point on, the staffing would decrease until the main plant site remediation is complete. After remediation, the only staff needed on site would be those required to monitor and protect the ISFSI and GTCC Waste Storage Facility, which would be minimal (not disclosed due to security). Peak staff during ISFSI/GTCC quarterly, annual, and 5-year operations would be less than 50.

Basic utilities such as, but not limited to, electricity and information technology resources would be required to support the staff present on site during the decommissioning period. Because there would be lower numbers of staff travelling to and from the site as compared to operations, adverse effects due to travel to and from the site would be less than current levels.

Work hours for DCPP decommissioning personnel would mainly be a dayshift from 6:30 a.m. to 5:00 p.m., four days per week. There would be a small number of positions (approximately 100) required to be staffed 24 hours per day, 7 days per week. Security, Operations, and Radiation Protection personnel are all expected to staff these backshifts to support plant security, emergency preparedness requirements, and other NRC requirements.

The main DCPP Access Gate would continue to be operated as under current operations. The truck screening process during DCPP decommissioning is anticipated to take approximately 30 seconds or less to complete per truck. Trucks would stop at the main security gate and receive a pass to enter – there would be no lengthy screening process at the main security gate. (PG&E, 2022b – DR#8, Transportation 2)

To support rail transport operations at the SMVR-SB site, approximately 10 temporary employees are expected to be on site. This may consist of approximately two PG&E employees, six temporary workers, and two security personnel (PG&E, 2022a). These would be additional employees and likely would not be trips shifting from the DCPP site (PG&E, 2021c – TRANS-1). No additional employees are anticipated to be required at the PBR facility, if utilized for decommissioning.

2.5.3 Equipment Requirements

Required construction equipment would vary, depending on the specific activities being performed. Because of the sequencing of the Project, there would be some overlap in equipment requirements. Table 2-11 identifies anticipated equipment to be used to support D&D activities during Phase 1. Details of equipment use by activity are provided in EIR Appendix D.

Table 2-11. Equipment Requirements for Phase 1

Construction Equipment	Use
Aerial Lifts – Articulating Boom-Self Propelled Electric (various reaches)	Used for elevating personnel to perform de-construction activity, inspections, or elevated observations.
Aerial Lifts – Articulating Boom-Self Propelled Gas/Diesel (various reaches)	Used for elevating personnel to perform de-construction activity, inspections, or elevated observations.

Table 2-11. Equipment Requirements for Phase 1

Construction Equipment	Use
Aerial Lifts – Scissor Lift-Self Propelled Electric (various reaches)	Used for elevating personnel to perform de-construction activity, inspections, or elevated observations.
Aerial Lifts – Telescopic Boom-Self Propelled Gas/Diesel (various reaches)	Used for elevating personnel to perform de-construction activity, inspections, or elevated observations.
Air Compressor-Gas/Diesel driven – various capacities	Supply compressed air to various air tools and equipment.
Concrete Pumper Portable	Trailer mounted concrete pump to transfer concrete or grout from the mixer or concrete truck when a pump truck or concrete truck is unable to fit into the location.
Concrete Truck	Large vehicle used to transport concrete or grout from the batching plant to various locations on site.
Concrete Pumper Truck	Transfers concrete or grout from the mixer or concrete truck when the concrete truck does not fit into the location.
Concrete Crusher	Mobile or semi-mobile device used reduce the size of large concrete materials for recycle or disposal.
Crawler Mounted Hydraulic Excavators with Various Attachments	Large vehicle that is designed for excavation and demolition purposes. The excavators can be fit with attachments such as grapples, shears, buckets, and breakers.
25-Ton Crane (Carry Deck)	Extremely versatile crane for lifting and moving material that is in a tight space or with overhead obstacles.
25-Ton, 50-Ton, and 200-Ton Crane (Hydraulic- Rough Terrain)	Multi-purpose use crane used for lifting and moving heavy components. Designed to operate off-road and on rough applications and surfaces.
200-Ton Crane (All-terrain Hydraulic)	Hybrid between a mobile truck crane and rough terrain crane; used for lifting and moving heavy components.
200-Ton and 100-Ton Crane (Lattice Boom-Crawler Mounted)	Crane with a boom raised and lowered by a series of guy wires; structure allows high capacities and long boom lengths. Used in applications where large and excessively heavy items are raised and moved.
Forklift Electric (various capacities)	A small industrial vehicle, having a power operated forked platform attached at the front that can be raised and lowered for insertion under a cargo to lift or move it.
Forklift Gas/Diesel (Various Capacities)	A small industrial vehicle, having a power operated forked platform attached at the front that can be raised and lowered for insertion under a cargo to lift or move it.
Forklift Rough Terrain-Telescoping Boom	A small industrial vehicle, having a power operated forked platform attached at the front that can be raised and lowered for insertion under a cargo to lift or move it.
End Dump Trailer	The construction equipment used to transport massive amounts of construction materials and other payloads over the road and quickly and easily dump them somewhere else. Typically moved with a terminal tractor while on site or semi-truck tractor for over the road.

Table 2-11. Equipment Requirements for Phase 1

Construction Equipment	Use
Road Graders-Rigid and Road Graders- Articulated	Construction machine with a long blade used to create a flat surface during the grading process. It would be used for cutting, spreading, and leveling material during backfill or temporary roadway construction.
Articulated 4WD Loaders	Large construction machine with a bucket to move materials aside or load materials in a dump trailer or truck.
SUV Trucks	Sport utility vehicle to transport personnel around the construction site.
Pick-up Trucks	Vehicle to transport personnel and smaller material.
Semi (Tractor) Truck	Large vehicle used to pull large trailers, typically known as the tractor. Would be used to transport material off site for disposal.
Terminal Tractor	Large, maneuverable vehicle used to pull large trailers, typically known as the "Yard Goat" would be used to move and stage trailers on site.
Diesel Generator Sets (Various Capacities)	Provides temporary electrical power for construction tools, lighting, pumps, etc.
Pavement Breakers	Hand operated impact tool using solid steel bits that would break up concrete in localized areas.
Water Tanker Trucks-Off Highway	Used to carry water to specific locations for dust suppression.
Welding Machines-Gas/Diesel (Various Amperage)	Used to attach construction aids or rigging lift lugs. Also, would be used for equipment repairs.
Track Mobile	Road-rail vehicle used at the rail head to move rail cars in the yard.
Articulated Dump Truck, Off Highway 40-Ton Rock Truck	Large engine truck with a deep open bed that would be filled with loose materials such as dirt, gravel, or demolition waste and transported to a desired location.
Skid Steers with Various Attachments	Smaller and versatile construction vehicle fitted with different types of attachments that can perform a range of tasks, from excavation and grading to demolition and debris removal to overhead work and lifting.
2-Ton Flatbed Truck with Liftgate	Medium-sized vehicle with an easily accessible bed for transporting materials to various locations.
Dump Trucks (10 yard)	Large engine truck with a deep open bed that would be filled with loose materials such as dirt, gravel, or demolition waste and transported to a desired location.
Bulldozer	Powerful machine for pushing earth or rocks, used in road building, construction, and wrecking.
Utility Carts	Small vehicle for transporting personnel around the construction sites
80,000-pound Gross-Weight End Dump Highway Transport Truck/Trailer	Hauling waste debris off site to a waste disposal facility or to the rail head.
Cone Crushers 48-59 inches	Reduces the size of (rock/concrete) waste material so it can be more easily recycled or disposed of.

Table 2-11. Equipment Requirements for Phase 1

Construction Equipment	Use
Heavy Equipment Service Truck	Medium size truck vehicle equipped with tools, lubricants, and parts for the maintenance and repairs of the construction equipment.
Roller Compactor	Construction equipment used to compact road base or asphalt.
Tractor Loader Backhoe	Tractor equipped with load and backhoe attachments used for lighter excavation task for new electrical/water lines to temporary buildings.
Asphalt Pavers-Wheel Mounted	An asphalt paver is a machine used to distribute, shape, and partially compact a layer of asphalt on the surface of a roadway, parking lot, or other area for repairs or new laydown areas.
Trencher	Construction equipment used to dig trenches for laying pipes or electrical cables, for installing drainage, or in preparation for temporary buildings.
Hydrovac Truck	Used to safely expose underground infrastructures during major excavation with a high-volume vacuum system.
Survey Boat	Small water vessel to transport a survey team.
Electric and Gas/Diesel remote controlled demolition equipment	Used for remote demolition/decontamination in areas where personnel access is limited.
Specialty Lifting and Rigging Equipment	Large component removals.
ISFSI/GTCC Transporter	For movement of cask
Work Barge	Used to construct cofferdam
Tugboats	Used to construct cofferdam
Other Ocean based equipment	Used to construct cofferdam

Source: PG&E, 2021a – Table2.3.23-5.

Acronyms: GTCC = Greater Than Class C, ISFSI = Independent Spent Fuel Storage Installation, SUV = Sport Utility Vehicle, WD = Wheel Drive

Final site restoration activities in Phase 2 would involve essentially the same construction equipment as would be used for site restoration activities during Phase 1 but would be used to a lesser extent. Details of equipment use by activity are provided in EIR Appendix D.

Construction equipment use would occur primarily during daytime hours (i.e., between 6:30 a.m. to 5:00 p.m.) Monday through Friday. However, weekend and nighttime work would be needed periodically to avoid interruption to critical work activities or to meet key milestones. In the instance of nighttime work or during some D&D activities, temporary lighting may be used around excavations, scaffolding, and other construction equipment. These activities may include construction equipment maintenance; repair, and transport to and from the mechanic's work area, the construction staging area, or other designated work area; as well as the delivery or removal of construction equipment to and from the Project site.

2.6 Applicant Commitments

PG&E submitted background environmental studies and plans to support its application to the County. The technical reports include recommended measures that could be applied to the Project. These technical reports and recommendations were reviewed and considered in the preparation of this EIR. In addition, the application included several plans, some of which were

updated as part of the 30 percent design process, which were reviewed and incorporated as applicable in the issue-area evaluations in the EIR. These plans include the following:

- Preliminary Grading, Erosion & Sediment Control Plan
- Preliminary Engineering Geology Report
- Preliminary Discharge Structure Demolition and Restoration Plan
- Discharge Demolition Anchoring Plan
- Oil Spill Response Plan
- Turbidity Monitoring Plan
- Site Grading and Concrete Re-Use Strategy Plan
- Intake Structure Closure and Barge Loading Plan
- Preliminary Oak Tree Inventory and Mitigation Plan

In addition to these studies and plans, PG&E identified various Applicant Commitments (ACs). ACs are a commitment by the Applicant to take a certain action or conduct a survey and are considered part of the Proposed Project. The ACs that are included as part of the Proposed Project are identified in Table 2-12. The text of these commitments is as stated by PG&E in the CDP Application. Due to federal preemption, these ACs may not be applicable to the SMVR-SB railyard (see Section 1.3.3.2, *Surface Transportation Board*).

While many of the ACs proposed by PG&E help address potential Project effects, they may not fully address the impacts. In Section 4, mitigation measures have been developed as part of the Proposed Project impact analysis, which may override or supplement the intent of these ACs or other Proposed Project components. To ensure the Project is implemented as described in this Project Description, ACs and other project components would be tracked as part of the Mitigation Monitoring and Reporting Program.

Table 2-12. Applicant Commitments

Number	AC by Issue Area
Air Quality	
AC AQ-1	**Minimize Fugitive Dust.** PG&E will minimize fugitive dust during Project activities by implementing the following measures: ▪ Reduce the amount of disturbed area, where possible. ▪ Use water trucks or sprinkler systems in dry weather in sufficient quantity to prevent airborne dust from leaving the site. ▪ Implement more long-term dust control measures as soon as possible following completion of any soil-disturbing activities. ▪ Establish a policy that vehicle speed for all on site vehicles is not to exceed 15 miles per hour (mph) on any unpaved surface. ▪ Water active demolition and disturbed soil areas (including storage piles) as needed to suppress dust. Base the frequency on the type of operation and the soil and wind exposure. ▪ Cover or maintain at least 2 feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. ▪ Sweep adjacent public roads if visible soil material is carried out from a work site.
AC AQ-2	**Use of Tier 4 Equipment.** Off-road diesel-powered heavy equipment used in decommissioning will be equipped with Tier 4 engines, except for specialized equipment or when Tier 4 engines are not available. Retrofits that achieve or exceed emission reductions equivalent to that of a Tier 4 engine may be used in lieu of Tier 4 engines.

Table 2-12. Applicant Commitments

Number	AC by Issue Area
AC AQ-3	**San Luis Obispo County Air Pollution Control District (SLOCAPCD) Standard Measures.** PG&E will minimize ROG + NOx (reactive organic gases + nitrogen oxides) and diesel particulate matter (DPM) emissions during Project activities by implementing the following Standard Mitigation Measures: ▪ Keep construction equipment in proper maintenance condition according to manufacturer's specifications. ▪ Fuel all off-road and portable diesel-powered equipment with California Air Resources Board (CARB) certified motor vehicle diesel fuel (non-taxed version suitable for use off-road). ▪ Use on-road heavy-duty trucks that meet CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines and comply with the State On-Road Regulation. ▪ Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g., captive or NOx exempt area fleets) may be eligible by proving alternative compliance. ▪ All on- and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit. ▪ Diesel idling within 1,000 feet of sensitive receptors is not permitted. ▪ Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors. ▪ Electrify equipment when feasible. ▪ Substitute gasoline-powered in place of diesel-powered equipment, where feasible. ▪ Use alternatively fueled construction equipment on site where feasible, such as compressed natural gas, liquefied natural gas, propane, or biodiesel.
AC AQ-4	**SLOCAPCD Best Available Control Technology.** PG&E will minimize ROG + NOx and DPM emissions during Project activities by implementing the following Best Available Control Technology (BACT) measures: ▪ Further reduce emissions by expanding use of Tier 3 and Tier 4 off-road and 2010 on-road compliant engines. ▪ Repower equipment with the cleanest engines available. ▪ Install California Verified Diesel Emission Control Strategies found on the CARB website (https://ww2.arb.ca.gov/verification-procedure-currently-verified).
AC AQ-5	**SLOCAPCD Fugitive Dust Reduction Measures.** PG&E will minimize ROG + NOx and DPM emissions during Project activities by implementing the following fugitive dust reduction measures: ▪ Reduce the amount of the disturbed area where possible. ▪ Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site and from exceeding the Air Pollution Control District's (APCD) limit of 20 percent opacity for greater than 3 minutes in any 60-minute period. Increased watering frequency should be required whenever wind speeds exceed 15 miles per hour (mph). Reclaimed (non-potable) water should be used whenever possible. When drought conditions exist and water use is a concern, the contractor or builder should consider the use of an APCD-approved dust suppressant where feasible to reduce the amount of water used for dust control. ▪ All dirt stockpile areas should be sprayed daily and covered with tarps or other dust barriers as needed.

Table 2-12. Applicant Commitments

Number	AC by Issue Area
	▪ Permanent dust control measures identified in the approved Project revegetation and landscape plans should be implemented as soon as possible, following completion of any soil disturbing activities. ▪ Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established. ▪ All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD. ▪ All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid down as soon as possible after grading unless seeding or soil binders are used. ▪ Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. ▪ All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least 2 feet of freeboard in accordance with California Vehicle Code Section 23114. ▪ "Track-Out" is defined as sand or soil that adheres to and/or agglomerates on the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto any highway or street as described in California Vehicle Code Section 23113 and California Water Code 13304. To prevent 'track out', designate access points and require all employees, subcontractors, and others to use them. Install and operate a 'track-out prevention device' where vehicles enter and exit unpaved roads onto paved streets. The 'track-out prevention device' can be any device or combination of devices that are effective at preventing track out, located at the point of intersection of an unpaved road and a paved road. Rumble strips or steel plate devices need periodic cleaning to be effective. If paved roadways accumulate tracked out soils, the track-out prevention device may need to be modified. ▪ Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers shall be used with reclaimed water where feasible. Roads shall be pre-wetted prior to sweeping when feasible. ▪ All Particulate Matter of 10 Microns in diameter or smaller (PM10) reduction measures required should be shown on grading and building plans. ▪ The contractor or builder shall designate a person or persons whose responsibility is to prevent fugitive dust emissions from resulting in a nuisance and to enhance the implementation of the reduction measures as necessary to minimize dust complaints and reduce visible emissions below the APCD's limit of 20 percent opacity for greater than 3 minutes in any 60-minute period. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD Compliance Division prior to the start of any grading, earthwork, or demolition.
AC AQ-6	**Minimize GHG Emissions.** During construction, PG&E shall implement the following. ▪ Minimize unnecessary construction vehicle idling time. The Project intends to apply a "common sense" approach to vehicle use, so that idling is reduced as far as possible below the maximum of 5 consecutive minutes allowed by California law. If a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will address these vehicles use practices as part of pre-

Table 2-12. Applicant Commitments

Number	AC by Issue Area
	construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use. ▪ Maintain construction equipment in proper working condition in accordance with manufacturer's specifications. ▪ Minimize construction equipment exhaust by using low-emission or electric construction equipment where feasible. Portable diesel fueled construction equipment with engines rated 50 horsepower (hp) or larger and manufactured in 2000 or later will be registered under the CARB Statewide Portable Equipment Registration Program (PERP). ▪ Minimize welding and cutting by using mechanical compression assembly applications where practical and within standards. ▪ Encourage the recycling of construction waste where feasible.
Biological Resources	
AC BIO-1	**Worker's Environmental Awareness Training – Biological Resources.** An environmental awareness training shall be presented to all construction personnel by a qualified biologist prior to start of any Project activities. The training shall include color photographs and a description of the ecology of all special-status species known, or with potential, to occur on site, as well as other sensitive resources requiring avoidance near the Project site. The training shall also include a description of protection measures required by discretionary permits, an overview of the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA), and implications of noncompliance with these regulations. This will include an overview of the required avoidance, minimization, and mitigation measures and Project boundaries and avoidance areas. A sign-in sheet with the name and signature of the qualified biologist who presented the training, and the names and signatures of the environmental awareness trainees will be kept. A fact sheet conveying the information provided in the environmental awareness training will be provided to all Project personnel and anyone else who may enter the Project site. When new construction personnel join the Project after the initial training period, they will receive the environmental awareness training from the qualified biologist before beginning work. Visitors to the Project site, such as company executives, administrative staff, or other guests, are not required to receive the environmental awareness training as their time in the Project area will be of short duration. Visitors may be independent on the Project site if they elect to receive the training, but otherwise must be escorted by someone who is trained.
AC BIO-2	**General Marine Operations and Wildlife Protection.** The following general measures are recommended to minimize impacts to all wildlife species during active construction. Use of these measures does not give "take" authority under FESA, CESA, or the Marine Mammal Protection Act (MMPA). ▪ Construction equipment shall be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present. ▪ Any contractor, employee, or third party responsible for the inadvertent "take" of a federal- or state-listed species, or that finds a dead or injured special-status species, will immediately report the incident to the Project biologist who will then notify the appropriate agencies within 24 hours by phone and by email. Notification must include date, time, and location of the incident and other pertinent information. Written notification

Table 2-12. Applicant Commitments

Number	AC by Issue Area
	will be provided to the appropriate agency contacts within 3 working days of the incident and will include the same notification information listed above.
AC BIO-3	**Site-Specific Stormwater Pollution Prevention Plan.** A DCPP site-specific Stormwater Pollution Prevention Plan (SWPPP) will be prepared in support of a Construction General Permit (CGP) that will be required because the area of disturbance will be greater than one acre. If the area of impact is greater than one acre at the SMVR-SB site a SWPPP will be prepared. The SWPPP will identify potential pollutant sources vulnerable to rainwater events along the coastal bluffs surrounding the Discharge Structure and Intake Cove. Pathways that lead to the intertidal zone and ocean, which could contain pollutants, will be identified and a series of standard Best Management Practices (BMPs) will be developed to ensure adequate prevention of slope erosion and silt and sedimentation impacts to adjacent intertidal areas. Implementation of the site specific SWPPP will reduce potential water quality impacts due to stormwater runoff during decommissioning activities.
AC BIO-4	**Site Maintenance and General Operations.** The following general measures are recommended to minimize impacts during active construction: ▪ A 15-mph speed limit will be established for all unpaved roads. ▪ The use of heavy equipment and vehicles shall be limited to the Project limits and defined staging areas/access points. The boundaries of each work area shall be clearly defined and marked with high visibility fencing. No work shall occur outside these limits. ▪ In the vicinity of sensitive resources and habitats (e.g., wetlands and drainages), signs shall be posted at the boundary of the work area indicating the presence of sensitive resources. ▪ Project plans, drawings, and specifications shall show the boundaries of all sensitive resource areas and the location of erosion and sediment controls, delineation of construction limits, and other pertinent measures to ensure the protection of sensitive habitats and resources. ▪ Disturbance or removal of vegetation will not exceed the minimum necessary to complete operations. ▪ Staging of equipment and materials shall occur in designated areas with appropriate demarcation and perimeter controls. No staging areas shall be located within 100 feet of sensitive habitat or jurisdictional aquatic resources. ▪ Secondary containment, such as drip pans, shall be used to prevent leaks and spills of potential contaminants. ▪ Washing of concrete, paint, or equipment, and refueling and maintenance of equipment shall occur only in designated staging areas. These activities will occur at a minimum of 100 feet from sensitive habitat or jurisdictional aquatic resources, including drainages and wetlands. Sandbags and/or absorbent pads and spill control kits shall always be available for use in the case of a spill or leak. ▪ Construction equipment shall be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present. ▪ Plastic monofilament netting (erosion control matting) or similar material will not be used on site due to the potential for entangling special-status small mammals or reptiles. Acceptable substitutes are coconut coir matting or tackified hydroseeding compounds.

Table 2-12. Applicant Commitments

Number	AC by Issue Area
AC BIO-5	**General Wildlife Protection.** The following general measures are recommended to limit impacts to all wildlife species. Use of these measures does not give "take" authority under FESA or CESA. ▪ The extent of disturbances will be reduced to the smallest possible area, considering the existing travel network; topography; placement of facilities; location of burrows, nesting sites, and dens; Project safety; and other limiting factors. ▪ To the extent possible, previously disturbed areas will be used for stockpiling excavated materials, equipment storage and staging, vehicle parking, and other surface-disturbing actions. ▪ Existing roads and routes will be used to the maximum extent possible. ▪ All excavations will have wildlife exit ramps maintained at a slope no greater than 1:1 (45 degrees). Excavations will be checked in the morning before beginning work and at the end of each working day. Before trenches are filled, they will be thoroughly inspected for wildlife. All wildlife will be allowed to exit unharmed. If a special-status species does not exit the trench within a reasonable period of time, the appropriate agency will be contacted for guidance. All instances of a federal- or state-listed species discovered within a trench will be reported to the appropriate agency. ▪ Any contractor, employee, or third party responsible for the inadvertent "take" of a federal- or state-listed species, or that finds a dead or injured special-status species, will immediately report the incident to the Project biologist who will then notify the appropriate agencies within 24 hours by phone and by email. Notification must include date, time, and location of the incident and other pertinent information. Written notification will be provided to the appropriate agency contacts within 3 working days of the incident and will include the same notification information listed above. ▪ Any contractor, employee, or third party responsible for inadvertently violating the terms or conditions of the Project will immediately report the incident to the Project biologist who will notify the appropriate agencies within 24 hours by phone and by email. Such violations may include unauthorized habitat disturbance, destruction of a protected plant population, or impacts to wildlife that do not fall into the actions covered by the Project permits. All non-emergency actions will cease immediately until guidance is received from the appropriate agencies. Notification must include the date, time, location, and other pertinent information of the incident.
AC BIO-6	**Biological Resources Monitoring Plan.** A Biological Resources Monitoring Plan shall be developed by a qualified biologist prior to start of any Project activities. The plan shall be submitted to the County and other applicable resources agencies for review and will outline all protocols and procedures for protection of sensitive biological resources on site including responsible parties and contact information. The plan shall require that all initial ground disturbance and vegetation clearing within or immediately adjacent to undeveloped areas will be monitored by a qualified biologist. Specifically, monitoring will be conducted within suitable habitat for known or presumed special-status plant and wildlife species. At a minimum, full time biological monitoring will be conducted by a qualified biologist on a daily basis during the start of construction during initial ground disturbances and for all vegetation removal activities within undeveloped areas or immediately adjacent to undeveloped areas. During the full-time monitoring period, all known occurrences of special-status plants and wildlife, and sensitive resources will be inspected. Once initial site disturbance has been completed, full-time monitoring will be reduced to part-time monitoring during normal

Table 2-12. Applicant Commitments

Number	AC by Issue Area
	Project operations. Exceptions to this would be if an active bird nest or other sensitive species is present that requires full-time or otherwise more frequent monitoring. Part-time monitoring will consist of weekly site visits. During these weekly visits, all occurrences of special-status plants and wildlife, and sensitive resources within or immediately adjacent to work areas will be checked. Although weekly biological monitoring is expected for normal operations, the biological monitor will be available during all construction activities via cell phone. The "on-call" biologist will be prepared to address any biological resource concerns and/or mobilize to the Project site to aid in species protection measures as needed. Frequent communication will be held between the biologist and PG&E to ensure monitoring is effectively implemented during the appropriate Project activities.
AC BIO-7	**Preconstruction Survey for Nesting Birds and Raptors.** If work is planned to occur between February 1 and September 15, a qualified biologist shall survey each work area for nesting birds and raptors within 1 week prior to initiation of Project activities. If nesting birds and/or raptors are located on or near the proposed work area, they shall be avoided until they have successfully fledged, or the nest is no longer deemed active. A non-disturbance buffer of 100 feet shall be placed around non-listed, passerine species, and a 300-foot buffer will be implemented for raptor species. All activity will remain outside of that buffer until a qualified biologist has determined that the young have fledged or that proposed construction activities would not cause adverse impacts to the nest, adults, eggs, or young. If special-status avian species are identified, including golden eagles, peregrine falcons and white-tailed kites, no work will begin until an appropriate buffer is determined in consultation with the local California Department of Fish and Wildlife (CDFW) biologist, and/or the US Fish and Wildlife Service (USFWS). If Project work is halted for more than 5 days or if Project work is initiated in new areas, then additional nesting bird and raptor surveys will be conducted within 1 week of planned Project work.
AC BIO-8	**Noxious Weed Prevention.** The extent of noxious weed populations within and 100 feet adjacent to the Project area shall be mapped by a qualified biologist prior to Project implementation and mapped at least once per year during Project activities and for 3 years following completion of Project activities. Should monitoring indicate that weeds have spread within the Project site, they should be treated using methods approved by the appropriate agencies for a period of up to 5 years following completion of Project activities in that area of the site. In addition, the following measures shall be implemented during construction: ▪ All off-road equipment that is not local to the Project area should be cleaned of all dirt, mud, and plant debris prior to being brought on site. ▪ All vehicles and equipment should be cleaned of all dirt, mud, and plant debris prior to entering non-developed portions of the site or when moving from an area on site with known noxious weed populations to an area without noxious weed populations. ▪ Minimize soil disturbance to the extent possible. ▪ Maintain gravel and soil spoils piles free of invasive weeds; use areas known to be weed-free for staging and laydown areas. ▪ Materials used for erosion control will be certified weed free (i.e., straw wattles, gravel, fill material, etc.). When restoring a site after disturbance, use a native seed mix.

Table 2-12. Applicant Commitments

Number	AC by Issue Area
Cultural Resources	
AC CR-1	**Discovery of Human Remains.** If human remains are exposed during construction, PG&E shall notify the County Environmental Coordinator immediately and comply with State Health and Safety Code Section 7050.5, which states that no further disturbance shall occur until the County Coroner has been notified and can make the necessary findings as to origin and disposition of the remains pursuant to Public Resources Code 5097.98. Construction shall halt in the area of the discovery of human remains, the area shall be protected, and consultation and treatment shall occur as prescribed by law.
AC CR-2	**Worker's Environmental Awareness Training – Cultural and Paleontological Resources.** Prior to the start of construction, all field personnel will receive a worker's environmental awareness training module on cultural and paleontological resources. The training will provide a description of the fossil resources that may be encountered in the Study Project Area, outline steps to follow in the event that a fossil inadvertent discovery is made and provide contact information for the Project Cultural Resource Specialist, Paleontologist and on-site monitor(s). The training will be developed by the Project Cultural Resource Specialist and Paleontologist and may be conducted concurrent with other environmental training (e.g., cultural and natural resources awareness training, safety training, etc.). The training may also be videotaped or presented in an informational brochure for future use by field personnel not present at the start of the Project.
Geology and Soils	
AC GEO-1	**Unknown Paleontological Resources.** If paleontological resources are encountered during Project excavation, all ground-disturbing activities within 50 feet of the find shall be redirected to other areas until a qualified paleontologist can be retained to evaluate the find and make recommendations for additional paleontological mitigation, which may include paleontological monitoring; collection of observed resources; preservation, stabilization, and identification of collected resources; curation of resources into a museum repository; and preparation of a final report documenting the monitoring methods and results to be submitted to the County.
Hydrology and Water Quality	
AC WQ-1	**Construction General Permit (CGP).** Prior to the start of construction, PG&E shall obtain coverage under the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by Orders No. 20100014-DWQ and 2012-0006-DWQ) (Construction General Permit). This shall include submission of Permit Registration Documents (PRDs), Notice of Intent (NOI) for coverage under the permit to the SWRCB. Ground-disturbing activities shall not be initiated until the Waste Discharge Identification Number (WDID) is received from the SWRCB. A SWPPP shall be prepared and implemented for the Project in compliance with the requirements of the CGP. The SWPPP shall identify construction BMPs to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in stormwater runoff as a result of construction activities. PG&E shall submit a Notice of Termination (NOT) to the Central Coast Regional Water Quality Control Board upon completion of construction and stabilization of the Project site.

Table 2-12. Applicant Commitments

Number	AC by Issue Area
Noise	
AC NOI-1	**Reduce Truck Traffic Noise.** PG&E will reduce truck traffic noise along the Project's off site truck haul routes by implementing the following measures: ▪ Prohibit jake (engine compression) braking of trucks. ▪ Equip all trucks with Occupational Safety and Health Administration (OSHA) compliant self-adjusting backup beepers that account for ambient conditions and automatically adjust the volume to be as low as possible, while still being audible to workers.
AC NOI-2	**Reduce Construction Noise.** PG&E will reduce construction noise during Project construction activities by implementing the following measures: ▪ Prohibit jake (engine compression) braking of trucks. ▪ All mobile construction equipment can be equipped with OSHA compliant self-adjusting backup beepers that account for ambient conditions and automatically adjust the volume to be as low as possible, while still being audible to workers. ▪ All stationary sources (generators, light towers) can be of low noise design, or require use portable noise barriers that shield nearby noise sensitive locations. ▪ Functional mufflers should be maintained on all diesel-powered equipment.

Acronyms: CARB = California Air Resources Board, hp = horsepower, PERP = Portable Equipment Registration Program

2.7 Future Actions – Retain Marina for Permitting and Reuse by Third Party

By the end of 2034 (i.e., within Phase 2 [2032-2039]), the DCPP site and facilities would have undergone FSS to confirm that any residual levels of radionuclides have been removed and/or decreased to levels below site-specific levels that equate to the NRC-approved site release criteria. Retained facilities (see Figure 2-16) including the Marina would then be released from the 10 CFR Part 50 facility operating licenses for Units 1 and 2; however, this does not include the revised OCA area, which would remain an operating industrial area subject to a Part 72 NRC License. In addition, in areas where facilities have not been retained, they would be restored. Additionally, as the risk profile for DCPP goes down (once all SNF is transferred to the ISFSI), PG&E can authorize activities within the security exclusion zone (see Figure 2-6) and work with a third party to allow use of the Marina (PG&E, 2022a). However, any changes to the security exclusion zone (reduction or elimination) must be completed through federal government action by the US Coast Guard and the US Department of Transportation (PG&E, 2022a).

Following release from the 10 CFR Part 50 facility operating licenses and restoration, PG&E would apply for a new or amended CSLC lease and sublet or use another arrangement to transfer the use of the Marina to a third party for permitting and reuse for recreational, education, and/or commercial purposes. Marina improvements are being addressed in this EIR at a project-level consistent with the description of improvements assumed by PG&E in its application. Additional CEQA analysis may be needed once a third party is actively seeking permits and a lease, and more is known about the specific modifications and Marina reuse activities. Any application for reuse would be evaluated for consistency with these assumptions as part of the land use permit and associated CEQA determination.

Anticipated Marina improvements assumed to be completed by the third party are depicted in Figure 2-37; the third party would be required to obtain the necessary land use and building permits from the County and a new or amended lease from CSLC prior to beginning the improvements. No improvements are envisioned for the Breakwaters – these would remain in place and continue to protect the Marina from wave actions.

Figure 2-37. Marina Post-DCPP Decommissioning

The Marina would be a facility whereby small vessels could be launched into the Intake Cove via a boat hoist. The size of the vessels would be limited to boats that could be towed by a trailer and be within the weight limit/lifting capacity of the proposed boat hoist. Boaters would access vessels through a set of stairs extending from the boat hoist area to the water surface. The small, existing boat dock in the southeast corner of the Intake Cove would be maintained for boater use. See Figure 2-38, which shows a rendering of the Intake Structure and Marina post-decommissioning in the assumed reuse configuration.

Figure 2-38. Intake Structure and Marina Post-Decommissioning

2.7.1 Parking to Support Marina Use

An upland parking lot could be permitted and constructed by a third party, with access from Diablo Canyon Road into the site (see Figure 2-37). The upper parking lot would include 87 auto parking spaces. In the lower southern area of the Marina, 34 auto and 6 truck and trailer spaces would be provided. This parking would include American with Disabilities Act parking, staff and administrative parking, and parking for temporary and delivery purposes. On top of the closed (with bulkheads) Intake Structure, 60 auto and 12 truck and trailer parking spaces would be provided. Stairs and accessible pedestrian access would be provided between the upper and lower parking areas.

Vessels would need to be transported by vehicle to the boat hoist located on the top of the closed Intake Structure.

2.7.2 Intake Structure Modifications to Support Marina Use

The top of the closed (with bulkheads) Intake Structure would be paved during the Project, covering all areas from the inland bluff to the seawall. It would include parking as noted above. Traffic lanes would be painted on the surface to facilitate an orderly traffic flow for boaters and pedestrian visitors. Improvements, including safety railings, would be installed along the waterfront. Railings would meet the safety code for near water railings. The top of the closed Intake Structure would include the repurposing of an existing maintenance structure as a boat repair building and a new 2,000-square foot building for office/commercial purposes.

A hydraulic/electric boat hoist capable of lifting small vessels from a trailer and into the water could be placed on the outer area of the closed Intake Structure by a third party. Figure 2-39 shows a typical arrangement of a boat hoist in operation. The hoist would be of sufficient size and strength to accommodate most vessels. It would be serviced by the Marina owner/operator and be designed to be operated by the vessel operators (i.e., public). Once a boat is placed in the water, the vessel crew must be able to board safely. To accommodate this, a set of steel stairs would be placed along the waterfront with access to the water. The stairs would extend to the water and provide a small platform at the water level. The stairs and platform would be constructed to withstand weather and seawater. Figure 2-39 shows a typical arrangement of a boat hoist and stairs.

Figure 2-39. Typical Pier-mounted Boat Hoist and Articulated Stairs

The following ancillary structures associated with the closed Intake Structure could also potentially be retained to support Marina operations:

- Intake Access Facility
- Divers Shower/Lab Facility
- Intake Control Building
- Intake Maintenance Shop
- Underground Sewage Holding Tank/Lift Station
- Chemical Storage Tanks and Pad

2.7.3 Boat Dock Use

The existing boat dock would remain in the southeast corner of the Intake Cove and could be used for vessel tie-up. The capacity of the existing boat dock is two boats; the two boats are skiffs and are 28 and 23 feet in length (PG&E, 2023a). For two months a year, a 30-foot-long kelp harvester is also stationed at the dock in addition to the two skiffs (PG&E, 2023a).

Loading of vessels would be maintained by the third party (see Figure 2-40). Once vessels are placed in the water, they can be moved to the dock for loading passengers and equipment. Boats would need to be anchored in the Marina and smaller skiffs would transport persons from their boats to the dock. It is assumed that a maximum of five boats at any given time would seek to anchor overnight in the Marina.

Figure 2-40. Existing Boat Dock in the Intake Cove

2.7.4 Public Restrooms

If the Marina is operated by a third party, public restrooms would be provided and supported by a septic and dispersal system that is appropriately sized for the Marina uses. PG&E's expectation is these wastewater systems would be located within existing developed areas of the DCPP site, such as the area where Lot 4B currently is located (see Figure 2-8) (ERM, 2023b). The septic system would be permitted, installed, and operated consistent with County ordinances related to sewage disposal systems and wastewater management (e.g., Titles 19 and 22), which include setbacks from water sources, and Regional Water Quality Control Board requirements, as appropriate. Water would not be available for boat washdown or engine clearance; this would need to be carried out at another facility, such as Port San Luis.

2.7.5 Marina Operations

It is assumed that up to 200 people per day would visit the Marina. Of these visitors, 18 people would tow boats to the Marina for deployment into the ocean via the boat hoist installed on the top of the closed Intake Structure. It is assumed that an additional five boats per day would enter the Marina from the ocean. Also, it is assumed that 10 personal watercraft, such as stand-up paddle boards or kayaks, would be launched in the Marina per day. The watercraft would be launched from the existing boat dock. It is also assumed that there would be 5 employees working in support of the Marina operations. Any application for reuse would be evaluated for consistency with these assumptions as part of the land use permit CEQA determination.

3. Assessment Methodology (Phases 1 and 2)

3.1 Introduction

Consistent with the State CEQA Guidelines, this section presents the methodology used for evaluating and identifying potential environmental impacts associated with the Proposed Project (see Section 2, *Project Description (Phases 1 and 2))*. The Proposed Project includes the Diablo Canyon Power Plant (DCPP), Pismo Beach Railyard (PBR; backup waste transfer site for non-hazardous, non-radiological waste), and the Santa Maria Valley Railyard (SMVR) facility site known as Betteravia Industrial Park (SMVR-SB; waste transfer site). The Proposed Project would also utilize offshore barge routes and adjacent roads and highways for transport of materials and decommissioning waste. The evaluation approach presented below describes how changes in the environment will be assessed resulting from the decommissioning of the DCPP facility and modifications and operation of the SMVR-SB site and potentially the PBR site.

3.2 Impact Analysis Methodology

An EIR is required to describe physical environmental conditions in the vicinity of a project in order to provide a baseline for comparison to determine potential project impacts and gauge their significance (State CEQA Guidelines, §15125). Use of an appropriate baseline is also important for establishing alternatives to the proposed activities that can be analyzed in an EIR. The alternatives must be capable of reducing or avoiding one or more significant impacts of a project, but do not need to address impacts associated with existing conditions. The County must identify which parts of the Proposed Project are known or reasonably foreseeable; if it finds that a particular component of the Project is too speculative for evaluation, the County should note its conclusion and terminate discussion of the impact (State CEQA Guidelines, §15145).

3.2.1 Baseline Conditions

Baseline conditions are defined as the existing physical environmental setting by which a lead agency determines whether an impact is significant (State CEQA Guidelines, §15125, subd. [a]). A significant environmental effect or impact is defined as a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the Project (Pub. Resources Code, §§21068, 21100, subd. (d); State CEQA Guidelines, §15382).

Potential impacts are often analyzed in the context of the local and regional physical environmental conditions existing at the time a Notice of Preparation for a project EIR is released (in this case, October 28, 2021). For the Proposed Project, baseline conditions include the local and regional physical environmental conditions as they exist now, as well as the existing operations at the DCPP, PBR, and SMVR-SB sites. In addition, the existing physical setting or baseline consists of actions completed or initiated by PG&E related to the on-site spent nuclear fuel storage, including California Coastal Commission approvals related to the existing Independent Spent Fuel Storage Installation and prior approval by the California Public Utilities Commission regarding shutdown of the DCPP facility. Baseline conditions also include ongoing maintenance. Therefore, impacts addressed in the EIR are based on a comparison of existing operations of the DCPP, PBR, and SMVR-SB sites to anticipated Proposed Project activities.

3.2.2 Regulatory Setting

Each environmental issue is considered in the context of federal, state, regional, and local laws, regulations, and policies applicable to each issue. Appendix C summarizes applicable federal and state laws, regulations, and policies. Each environmental issue section identifies applicable regional and local laws, regulations, and policies (see Section 1.3, *Legal and Governmental Authority,* for a summary of federal, state, and local responsibilities, including federal preemption, related to nuclear power plants).

3.2.3 Significance Criteria

Each environmental issue has significance criteria, which serve as benchmarks for determining if a Proposed Project component or activity would result in significant adverse environmental impacts when evaluated against baseline conditions. A significant effect on the environment means "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project" (State CEQA Guidelines, § 15382). Significance criteria relevant to each environmental issue were drawn from a variety of sources, including Appendix G of the State CEQA Guidelines and applicable local regulatory agency policies and standards indicated within each issue-area evaluated in Section 4 of this EIR. Some impact categories in this EIR lend themselves to scientific or mathematical analysis and quantification, while others are more qualitative. Some issues, such as air quality, have significance thresholds established by agencies with regulatory authority for that resource. Significance criteria selection and the determination of impact significance are based on the independent judgment of the County of San Luis Obispo as the CEQA lead agency.

3.2.4 Impact Analysis

The terms "effect" and "impact" used in this document are synonymous and can refer to effects that are either adverse or beneficial.

- **Direct effects:** Effects caused by the Proposed Project that occur at the same time and place as the Proposed Project.
- **Indirect effects:** Effects caused by the Proposed Project that occur later in time, or further in distance, but are still reasonably foreseeable.
- **Cumulative impacts:** Impacts resulting from the Proposed Project when combined with similar effects of other past, present, and reasonably foreseeable future projects, regardless of which agency or person undertakes such projects (cumulative impacts could result from individually insignificant but collectively significant actions taking place over time).

The significance of the impact is determined based on an analysis of the impact, compliance with any recommended mitigation measures, and the level of impact remaining compared to the applicable significance criterion. Impacts are classified by the categories listed below.

- **Class I: Significant and Unavoidable** – A substantial or potentially substantial adverse change from the environmental baseline that meets or exceeds significance criteria, where either no feasible mitigation can be implemented, or the impact remains significant after implementation of mitigation measures.

- **Class II: Less than Significant with Mitigation** – A substantial or potentially substantial adverse change from the environmental baseline that can be avoided or reduced to below applicable significance thresholds with implementation of mitigation measures.
- **Class III: Less than Significant** – An adverse impact that does not meet or exceed the significance criteria of a particular environmental issue area and, therefore, does not require mitigation.
- **Class IV: Beneficial** – An impact that would result in an improvement to the physical environment relative to the environmental baseline.
- **No Impact:** A change that results in no impact on the environment relative to the environmental baseline.

The analysis in this EIR is prepared with the understanding that PG&E would obtain all required permits and approvals from other agencies and comply with all legally applicable terms and conditions associated with those permits and approvals. In addition, the laws, regulations, and standards for decommissioning a nuclear generating facility would be applied consistently to the Proposed Project. Implementation of the Proposed Project, which is described in Section 2, *Project Description (Phases 1 and 2)*, including implementation of mitigation measures identified to reduce or avoid significant adverse impacts, would be monitored in accordance with a Mitigation Monitoring Program (summarized below).

3.2.5 Mitigation Monitoring and Reporting

An EIR is required to indicate the way significant effects on the environment resulting from project implementation can be mitigated or avoided; a governmental agency must prevent significant, avoidable damage to the environment by requiring changes in projects through the use of mitigation measures or project alternatives (discussed below) when the agency finds the changes to be feasible (CEQA, § 21002.1, subd. [a] & [b]; State CEQA Guidelines, § 15002, subd. [a]). Implementation of multiple mitigation measures may be needed to reduce an impact to a less-than-significant level. Impacts that still meet or exceed significance criteria after application of mitigation measures are considered residual impacts that remain significant.

The County will be responsible for monitoring compliance with mitigation measures adopted pursuant to this EIR, project conditions of approval, and Applicant Commitments (as specified in Project Description Section 2.6) throughout decommissioning. One important step in monitoring is defining the responsibility of the Applicant to support this process. Mitigation Measure EM-1 defines the County's role in this process as required to support all other mitigation measures defined in this EIR. In addition, Mitigation Measure EM-2 outlines the Applicant's role in managing compliance by requiring plan updating, tracking, and proof of implementation of project-specific plans as identified by the Applicant in Section 2 (*Project Description*).

EM-1 **Applicant Funding for County Environmental Monitoring Team and Role.** At least 6 months prior to the Applicant's submittal of any construction permits related to decommissioning, the Applicant shall provide funding for the County of San Luis Obispo to retain an environmental monitoring team to ensure compliance with County Conditions of Approval, and the EIR Mitigation Monitoring and Reporting Plan.

The County's environmental monitoring team shall include manager and assistant monitor(s) (up to 2) to assist with mitigation and project condition oversight. The environmental monitoring team shall prepare and execute a monitoring management plan addressing condition compliance tracking and mitigation monitoring for all DCPP decommissioning activities, as specified in a project-specific scope of work.

The County monitoring plan shall address all phases of the Project including mitigation measures and conditions of approval that extend beyond decommissioning (e.g., success of revegetation). The monitoring management plan shall require updating at Phase 2 of the Decommissioning Project. This County monitoring management plan will include: (1) goals, responsibilities, authorities, and procedures for verifying compliance and coordinating with the Applicant's compliance team; (2) lines of communication and reporting methods; (3) a compliance report tracking system for requirement oversight which includes tracking the updated Applicant-prepared plans in EM-2; (4) verifying construction crew trainings regarding environmental sensitivities; (5) protocols regarding authority to stop work; and (6) action to be taken in the event of non-compliance. The County environmental monitor and their team shall be employed by or under contract to the County of San Luis Obispo. Costs of the monitoring team, monitoring assistants, and any County administrative fees, shall be paid by the Applicant.

The Applicant shall also be responsible for funding compliance work as required by mitigation measures and conditions specifying use of individuals with special expertise (e.g., botanist, wildlife biologist) and for coordinating with resource agencies. The County's environmental monitoring team will coordinate with the Applicant's specialists to ensure monitors are available at appropriate times (prior to issuance of construction permits, or during decommissioning, as required by individual mitigation measures presented in Section 4). In addition, the County's environmental monitoring team shall coordinate and communicate with resource agencies (i.e., CDFG, USFWS, ACOE) regarding project–related requirements. The monitoring team may also be tasked with monitoring implementation of responsible or resource agency requirements if desired by the agencies and coordinated through the County.

EM-2 **Project Plan Updating, Tracking, and Reporting.** Prior to the Applicant's submittal of any applications for decommissioning-related construction permits to County Building, the Applicant or its designee shall update all applicable Project-specific plans that were submitted in support of this application and develop a Plan Tracking and Reporting Form to identify and ensure that applicable recommendations in the plans will be implemented throughout the Project. The Tracking Form shall include (at minimum): agencies involved with or that have oversight on each plan; which agency is lead; deadline or trigger for plan requirement(s); tracking and updating intervals; and information on how missed deadlines on approval or reporting will be handled.

Plan Updating: The updated or new plans shall be submitted to San Luis Obispo County Planning and Building for review and approval at least 30 days prior to the submittal of permit applications to County Planning and Building for any decommis-

sioning activities or issuance of any permits. No County construction permits shall be issued until the Applicant's updated plans are approved and the County's Environmental Monitoring Management Plan has incorporated tracking of the updated Applicant's plans.

All applicant previously-submitted and County-accepted Project-specific plans, programs, and procedures shall be updated to reflect the final decommissioning Project. If a plan is addressed by another mitigation measure, then requirements of that mitigation measure apply and take precedence over this requirement. At a minimum, the following plans shall be updated:

- Discharge Structure Demolition and Restoration Plan
- Operating, Monitoring, and Maintenance Plan
- Revegetation Plan
- Site Grading and Concrete Re-use Strategy Plan

Plan Tracking and Reporting: Prior to issuance of any decommissioning-related County construction permits, the Applicant or its designee shall submit the final Plan Tracking and Reporting Form to the County for review and approval, along with copies of the updated plans. Throughout the duration of the Project, the Applicant or its designee shall document and report the Project activities requiring implementation of the recommendations identified in the plans. Records should include, at a minimum, a brief description of the Project activity, date(s) of activities, and applicable plan recommendations that were implemented. Reporting shall include notification to County Planning and Building of any violations or issues that arise under each plan and how the issue was resolved. At the end of each year, by November 15 (no later than December 1), the Applicant or its designee shall submit the Plan Tracking and Reporting Form to the County along with documentation of any plan changes, as proof of implementation. The timeframe for submittal of the form may be modified as determined by the County.

3.3 Cumulative Projects

Cumulative effects are impacts from related projects that would occur in conjunction with the Proposed Project. This section provides the methodology, list, and locations of other projects near the DCPP, railyards, and barge route used to determine the cumulative impacts associated with the Proposed Project. Cumulative impacts are analyzed in each issue area in EIR Sections 4.1 through 4.17. Relevant cumulative projects are identified in Section 3.3.2, *Relevant Cumulative Projects*, and in Table 3-1, and the locations are shown in Figures 3.1-1a and 3.1-1b.

3.3.1 Methodology

Information was collected on similar projects in the vicinity of the Proposed Project and barge route. These projects are in the planning stages, adopted, under construction, or completed and have impacts with the potential to combine with similar impacts caused by the Proposed Project,

thereby contributing to cumulative impacts. The following list describes the types of projects considered as part of the cumulative scenario.

- Approved and planned development projects in Avila Beach near Avila Beach Drive.
- Approved and planned development projects in the City of Pismo Beach and County of Santa Barbara located within approximately 1 mile of the railyards.
- Approved and in-progress offshore and onshore energy projects near the proposed barge route project.

The respective jurisdictions in which each cumulative project is located, the responsible agency reviewing or permitting the project (e.g., California State Lands Commission, Bureau of Ocean Energy Management), or online information for private developments was used in identifying key details regarding the cumulative projects. The information was current at the time it was provided by each jurisdiction, agency, or developer between the end of 2021 and beginning of 2022.

3.3.2 Relevant Cumulative Projects

Research was conducted in coordination with the following jurisdictions, agencies, and developers to compile the list of cumulative projects. These jurisdictions, agencies, and developers were considered the most likely source of past, present, and future projects that could contribute to cumulative impacts given their proximity to the Proposed Project and barge route. Table 3-1 summarizes the planned projects in the vicinity of the Proposed Project.

Orano System ISFSI Modifications. As stated in Section 1.2.2, *ISFSI Approval and Cask Design*, the DCPP's existing dry cask storage system at the ISFSI is the Holtec International (Holtec) HI-STORM 100 System. As of December 2021, there are a total of 1,856 SNF assemblies stored within the DCPP ISFSI. The SNF assemblies are stored within 58 Holtec HI-STORM 100 vertical casks (out of 140 total possible), with 32 SNF assemblies per cask (Stantec, 2022; NRC, 2021). In 2018, the California Public Utilities Commission (CPUC) adopted a settlement agreement between PG&E and multiple parties that found it would be more cost-effective to pursue a different dry cask storage system at the ISFSI if it could reduce the time associated with removing the SNF from the existing Spent Fuel Pools (see Section 1.2.2, *ISFSI Approval and Cask Design*). PG&E selected the Orano NUHOMS EOS System (Orano System) due to its design meeting DCPP-specific parameters such as seismic requirements, high heat load, and 80-year design life (Stantec, 2022). The Orano System is also expected to reduce worker exposure to radiation by more than half compared to the Holtec System (PG&E, 2022). The existing DCPP ISFSI would be modified to accommodate the new Orano System through removal of the existing dry cask baseplates and installation of Orano's horizontal storage module arrays. As described in Section 1.2.2, *ISFSI Approval and Cask Design*, SNF would be transferred to the ISFSI from approximately 2025 through 2029. Upgrading the ISFSI pad for the new Orano System is scheduled to start in 2025 and be completed by 2026 to facilitate the transfer of remaining SNF by 2029, thus occurring during Phase 1 of the Proposed Project (Orano, 2022). The modifications to the ISFSI are discussed in greater detail than the projects listed in Table 3-1 due to its proximity to the Proposed Project and concurrent schedule with Phase 1 activities.

The ISFSI modifications to support the Orano System involve the construction of precast horizontal storage modules (HSMs) and preparation of the existing ISFSI pad for the HSMs. The HSMs would be precast in a separate location, then heavy hauled to the existing ISFSI for final installation using a gantry crane. Approximately 384 truck trips are estimated for the hauling of the HSM precast components, construction materials, and equipment (Stantec, 2022 – Attachment A – Trucking Emissions (Air Basin) table). Preparation of the existing ISFSI pad includes extraction of the existing cask baseplates on ISFSI pad #3 through pad #7. After the cask baseplates are removed, the ISFSI pad would be levelled using G38 Diamond Grinders (or similar equipment) with water slurry tankers. This process is expected to be completed within one week. The four array HSMs would then be placed aboveground on the existing ISFSI pad (Orano, 2022). Each HSM would be constructed as a vault of reinforced concrete with stainless steel heat shields within the interior surrounding the canister. Each HSM would be approximately 25 feet long by 20 feet tall, with 4-foot-thick roof and front and rear walls. Passive air vents would allow air to cool the canisters through convection. The HSMs would be placed side-by-side in a row on the ISFSI pad. Two rows of HSMs would be placed back-to-back into blocks, with an access corridor between blocks or HSMs to allow for future access, if needed (Stantec, 2022). For the Orano site concept, see Figure G2-1, *NUHOMS® Installation Concept at DCPP*, in Appendix G2, *Radioactive Materials Transportation Experience and Risk Assessments*.

The Orano System uses a horizontally oriented dry shielded canister, where each canister can hold up to 37 SNF assemblies (as compared to the 32 SNF assemblies held by the existing Holtec canisters). The SNF would be loaded directly from the Spent Fuel Pools into the dry shielded canisters and transferred to a transfer cask for transport to the ISFSI using Orano's proprietary transfer vehicle(s). At the ISFSI, the dry shielded canisters would be loaded into an HSM using a proprietary Orano hydraulic transfer system.

Table 3-1. Cumulative Projects Located Near the DCPP Decommissioning Project

ID#	Project Name	Location	Description and Status
COUNTY OF SAN LUIS OBISPO / AVILA BEACH			
1	Orano System ISFSI Modifications	DCPP Site	See full description above table.
2	Communications Facility	Assessor's Parcel Number (APN) 076-171-016	Construction of communications facility on Diablo Canyon Road. **Status:** Application on hold (since Nov. 2018), not accepted to process.
3	Avila Beach Drive at Highway 101 Interchange	Avila Beach Drive and Shell Beach Road intersection	Replace the traffic stop-controls at the southbound ramp and Shell Beach Road intersection with a single-lane roundabout. Install traffic calming features approaching the roundabout, including along the northbound off-ramp. Provide a park-and-ride lot with bus stop. **Status**: Construction to begin mid-2023 and conclude mid-2025.
4	Flying Flags Campground	6420 Babe Lane, Avila Beach	Develop 60 recreational vehicle (RV) spaces, 31 RV cabin units, 20 hotel/motel cabins, 33 car/tent campsites, 22 walk-in/bike-in campsites, 16,000-sq. ft. visitor-serving commercial uses, harbor use areas, restrooms, and 48,000-sq. ft. parking lot. **Status:** RV park is partially open; 12 RV, 15 cabin sites, water

Table 3-1. Cumulative Projects Located Near the DCPP Decommissioning Project

ID#	Project Name	Location	Description and Status
			tank, and visitor center still need to be constructed. County Permit applications for Welcome Center buildings, commercial kitchen, and pool have not yet been submitted.
5	Bob Jones Trail Construction	From Ontario Road Trailhead in Avila Beach and Highway 101 to the Octagon Barn Trailhead (4595 S Higuera St)	Construct a connection trail between the existing 2.5-mile trail from Avila Beach to Highway 101 and a 1-mile segment from Prado Road to Los Osos Valley Road in the City of San Luis Obispo. **Status**: Construction anticipated April 2023 to April 2025.
6	Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit	APNs 076-181-032, 076-181-039, 076-181-061, and 076-205-001 Immediately north of Avila Beach Drive adjacent to the community of Avila Beach, situated at the edge of San Luis Bay where San Luis Creek flows to the Pacific Ocean	Phased Development Plan and Coastal Development Permit to construct hotel accommodations and related facilities. Includes a request for exception to allow additional business and access signage areas and request to modify road improvement standards along Avila Beach Drive. Would disturb approximately 17 acres with approximately 14,700 cubic yards of cut and 18,100 cubic yards of fill. **Status:** Notice of Preparation for the Draft EIR released; 30-day review period ended January 3, 2023.
CITY OF PISMO BEACH			
7	Signal at Bello Street and Price Canyon Road	Bello Street and Price Canyon Road	Install a signal at Bello Street and Price Canyon Road and improve sidewalk. **Status:** In Planning Process.
8	U.S. 101 Pismo Congestion Relief Project	San Luis Obispo County on U.S. 101 through the Pismo Beach corridor from post mile 16.0 to R22.5.	Reconstruct approximately 4 miles of the inside left shoulder of U.S. 101 for use as a part-time travel lane during peak traffic. **Status:** Construction anticipated June 2024 to December 2027 but could be delayed to 2026-2029.
9	Public Safety Center	Wadsworth and Bello Road	Construct a new fire station on Bellow Street and expand the police department into the old fire station. **Status**: Planned for Fiscal Year (FY) 2023.
10	Bello Road Paving	Bello Road from Wadsworth to Price Canyon	Paving improvements to Bello Road from Wadsworth to Price Canyon Road. **Status:** Planned for 2023.
11	Price Street Sidewalk Pavers	Downtown sidewalks along Price Street	Install pavers on downtown sidewalks on Price Street. **Status:** Planned for FY 2026.
12	Realign Frady Lane	Frady Lane and Ford Field	Straighten Frady Lane to route between baseball fields and railroad tracks. Repurpose old road alignment for parking, park, and corporation yard access. **Status:** Planned for FY 2025.
13	Storm Drain on Wadsworth from Bello to Judkins Middle School	Bello Street to Judkins Middle School	Install Phase III of the Wadsworth storm drain improvements per the Stormwater Master Plan drainpipe from Bello Street to Judkins Middle School and inlets near Judkins. **Status:** Planned for FY 2025.
CITY OF SANTA MARIA (In Vicinity of Proposed Truck Route)			
14	Westgate Marketplace	Northwest corner of Blosser Road and W. Battles Road	68,000-sq. ft. commercial center. **Status**: Planning permit expired on 12/15/2021.

Table 3-1. Cumulative Projects Located Near the DCPP Decommissioning Project

ID#	Project Name	Location	Description and Status
15	SerraMonte Townhomes	2065 S. Blosser Road	81 townhome units. **Status:** Planning permit expired on 3/20/2022.
16	Workforce Dormitories	1900 block of S. A Street	127.96-acre workforce housing dormitories. **Status**: Planning permit under review.
COUNTY OF SANTA BARBARA			
17	Highway 101 – Betteravia Road Interchange	Highway 101/Betteravia Road interchange	Improve northbound ramps in the southeast quadrant of the interchange. **Status:** Project construction to start FY 2031/32.
OFFSHORE/ENERGY PROJECTS			
18	Vandenberg Offshore Wind Energy Projects	Offshore: West side of the Vandenberg State Marine Reserve within 3 miles of the State boundary. Onshore: Parallel to the coastline within Vandenberg State Marine Reserve between the Santa Ynez River and Point Arguello Port: Port Hueneme	Install and operate four floating offshore wind turbines. Port Hueneme may be the preferred port location for the assembly, construction, and deployment of vessels, equipment, and building materials. **Status**: Preliminary planning process.
19	South Ellwood Project	Platform Holly, approximately 2 miles southwest of Goleta coast	Plug and abandon wells at Platform Holly. **Status**: In progress. Anticipated to be completed in 2023.
20	Rincon Onshore and Offshore Facilities	Rincon Island, approximately 0.6 mile south of Mussel Shoals, 5750 W. Pacific Coast Highway, Ventura	Phase 1 complete. Phase 2 consists of a Feasibility Study completed in August 2022, and an Environmental Impact Report (EIR) that is anticipated to be finalized in 2023. Phase 3 is anticipated to begin after the California State Lands Commission approves a decommissioning project and certifies the EIR. Decommissioning could include causeway removal or retention and reuse of the island and onshore site. **Status**: Phase 2 work underway; Notice of Preparation released; scoping completed in October 2022.
21	Chumash Heritage Marine Sanctuary Project	Along the Central California coastline, from Santa Rosa Creek in Cambria to Gaviota Creek in Santa Barbara. Bounded to the west by Santa Lucia Bank; to the east by mean high tide line.	Designate a portion of the Central California Coastline as the Chumash Heritage National Marine Sanctuary to protect historic, archaeological, cultural, aesthetic, and biological resources. **Status**: National Oceanic and Atmospheric Administration published Notice of Intent in November 2021. Public scoping process occurred from November 2021-January 2022, and draft documents are being prepared for release in December 2022 for review in the first quarter of 2023.
22	Morro Bay Wind Energy Area	Approximately 20 miles offshore the Central California coastline containing approximately 376 square miles.	Designate wind energy area to allow for development of offshore wind off the coast of Morro Bay in Central California. **Status:** On December 7, 2022, Bureau of Ocean Energy Management (BOEM) completed offshore wind lease sales of five lease areas covering 373,268 total acres off central and northern California. The leased areas have the potential to produce over 4.6 gigawatts of offshore wind energy, enough to power over 1.5 million homes.

Table 3-1. Cumulative Projects Located Near the DCPP Decommissioning Project

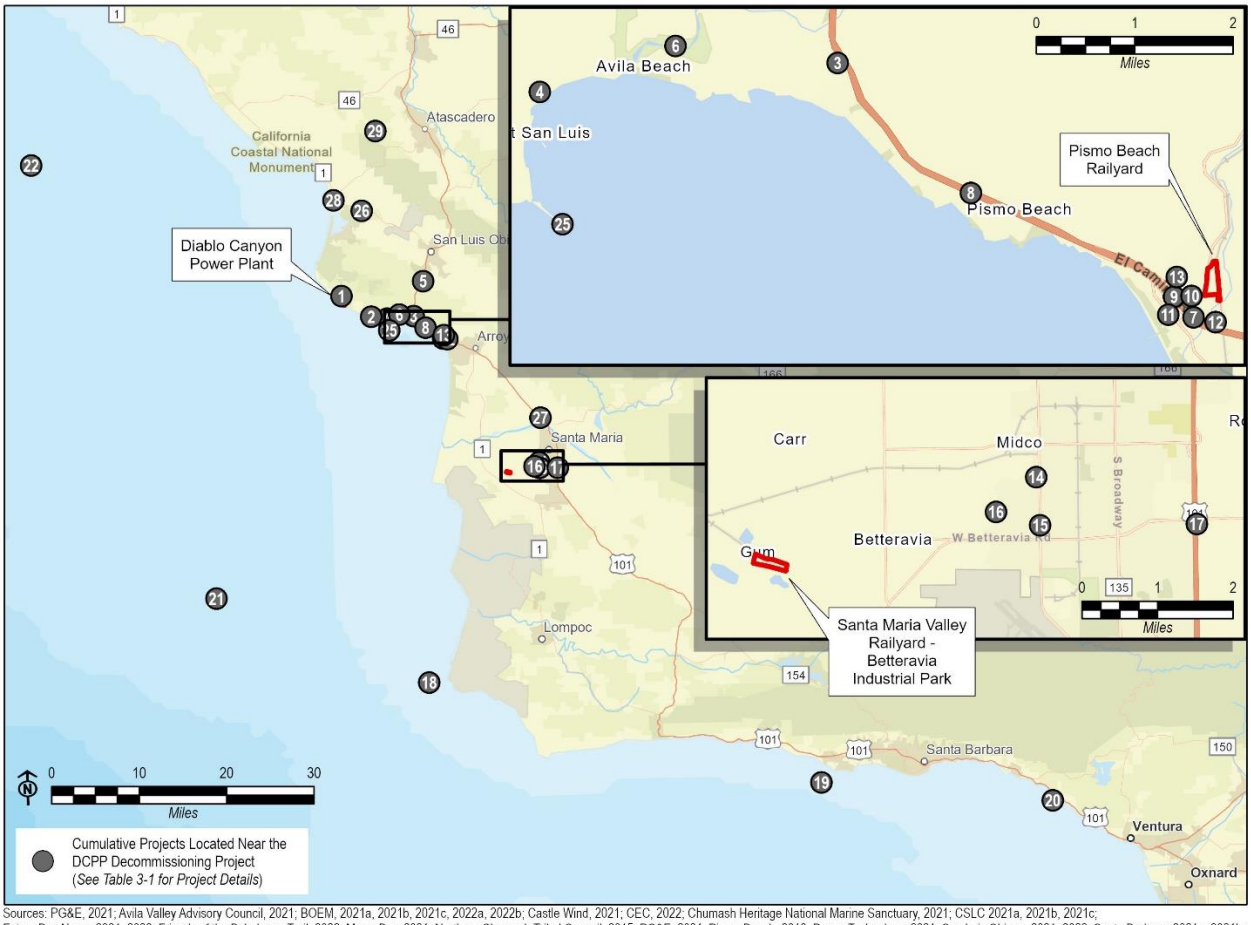
ID#	Project Name	Location	Description and Status
23	Humboldt Wind Energy Area	Approximately 21 miles offshore from the City of Eureka in Humboldt County, California, containing approximately 206 square miles.	Designate wind energy area to allow for development of offshore wind off the coast of Eureka in Northern California. **Status**: Final Environmental Assessment and Findings of No Significant Impacts released May 2022.
24	PacWave South Project	Approximately 6 nautical miles off Newport, Oregon	Construct approximately 2.65-square-mile open ocean wave energy project with a capacity up to 20 MW. **Status**: Lease issued in February 2021.
25	Port San Luis Breakwater Repair	Approximately 0.5 mile offshore southeast of Point San Luis Lighthouse	Repair breakwater in Port San Luis with the use of a barge. Repairs usually last about six months and avoid the spring season. **Status:** Next repair expected in 2023.
26	Pecho Energy Storage Center	2284 Adobe Road, San Luis Obispo County	Construct a 400-MW, 3,200-MW-hour advanced compressed air energy storage facility capable of flexibly charging and discharging daily as well as on a real-time basis. Major equipment includes four all-electric air compressor trains, four 100-MW air-driven power turbine generators, heat exchangers, thermal heat storage, and underground compressed air storage cavern, an above-ground water reservoir, auxiliary facilities, and a 3.5-mile electrical interconnection to the existing Morro Bay Switching Station. **Status**: Under review.
27	Bluff Trail Battery Energy Storage System	Immediately southeast of the existing Pacific Gas & Electric Mesa Substation on Joshua Street	Construct and operate a 500-MW utility-scale battery energy storage facility consisting of batteries housed in enclosures, associated on-site support facilities, fencing, access roads, and drainage features. Install a 230-kilovolt overhead generation transmission line that would extend approximately 500 feet from the project site to the Mesa Substation. **Status:** Information Hold process.
28	Vistra Energy Battery Energy Storage System	Former Morro Bay Power Plant site at 1290 Embarcadero, Morro Bay	Construct and operate a 600-MW battery energy storage facility housed in three 91,000-square-foot buildings on 22 acres. **Status:** Planned to operate by 2024.
29	Whale Rock Pumped Storage Hydro Project	Approximately 6 miles northeast of Whale Rock in San Luis Obispo County	Construct a pumped storage power facility with a capacity ranging from 600 to 1500 MW and storage duration ranging from 8 to 48 hours. Build a new upper reservoir to store 4,700 acre-feet of water. **Status:** Applied for Preliminary Permit Application in 2022.

Sources: Avila Valley Advisory Council, 2021; BOEM, 2021a, 2021b, 2021c, 2022a, 2022b, 2022c; CEC, 2022; Chumash Heritage National Marine Sanctuary, 2021; CSLC 2021a, 2021b, 2021c; Estero Bay News, 2021, 2022; Friends of the Bob Jones Trail, 2022; Morro Bay, 2021; National Oceanic and Atmospheric Administration (NOAA), 2022; Northern Chumash Tribal Council, 2015; PG&E, 2021; Pismo Beach, 2018; Power Technology, 2021; San Luis Obispo, 2021, 2022a, 2022b; Santa Barbara, 2021a, 2021b; SLOCOG 2021; US Department of the Interior, 2022.

Figure 3.1-1a. Overall Map of Cumulative Projects

Sources: PG&E, 2021; Avila Valley Advisory Council, 2021; BOEM, 2021a, 2021b, 2021c, 2022a, 2022b; Castle Wind, 2021; CEC, 2022; Chumash Heritage National Marine Sanctuary, 2021; CSLC 2021a, 2021b, 2021c; Estero Bay News, 2021, 2022; Friends of the Bob Jones Trail, 2022; Morro Bay, 2021; Northern Chumash Tribal Council, 2015; PG&E, 2021; Pismo Beach, 2018; Power Technology, 2021; San Luis Obispo, 2021, 2022; Santa Barbara, 2021a, 2021b; Santa Maria, 2021; SLOCOG 2021.

Figure 3.1-1b. Inset Maps of Cumulative Projects



Sources: PG&E, 2021; Avila Valley Advisory Council, 2021; BOEM, 2021a, 2021b, 2021c, 2022a, 2022b; Castle Wind, 2021; CEC, 2022; Chumash Heritage National Marine Sanctuary, 2021; CSLC 2021a, 2021b, 2021c; Estero Bay News, 2021, 2022; Friends of the Bob Jones Trail, 2022; Morro Bay, 2021; Northern Chumash Tribal Council, 2015; PG&E, 2021; Pismo Beach, 2018; Power Technology, 2021; San Luis Obispo, 2021, 2022; Santa Barbara, 2021a, 2021b; Santa Maria, 2021; SLOCOG 2021.

4. Environmental Setting and Impact Analysis (Phases 1 and 2)

This section examines the changes in the environment resulting from the decommissioning of the DCPP facility and modifications and operation of railyards based on the Proposed Project as detailed in Section 2, *Project Description (Phases 1 and 2)*. For each of the issues listed below, the methodology presented in Section 3 was used to assess direct, indirect, and cumulative impacts associated with the Proposed Project.

Analyzed in EIR Section 4 (by Section Number)

4.1 Aesthetics
4.2 Air Quality
4.3 Biological Resources – Terrestrial
4.4 Biological Resources – Marine
4.5 Cultural Resources – Archeology and Built Environment
4.6 Cultural Resources – Tribal Cultural Resources
4.7 Energy
4.8 Geology, Soils, and Coastal Processes
4.9 Greenhouse Gas Emissions
4.10 Hazardous and Radiological Materials
4.11 Hydrology and Water Quality
4.12 Land Use and Planning
4.13 Noise
4.14 Public Services and Utilities
4.15 Recreation and Public Access
4.16 Transportation
4.17 Wildfire

Addressed in EIR Section 6

Mineral Resources
Population and Housing

The Proposed Project would have no impact or a less-than-significant impact on certain environmental issues including Mineral Resources and Population and Housing. Section 6, *Other Required CEQA Sections (Phases 1 and 2),* describes the reasons why no significant impacts are expected related to these two issues, consistent with State CEQA Guidelines §15128.

4.1 Aesthetics

This section addresses the changes to aesthetics resulting from the Proposed Project. The environmental setting information provided in Section 4.1.1 identifies the Area of Visual Effect for the DCPP site and the proposed railyard sites and describes the visual quality for each of these sites. Section 4.1.2 identifies local regulations and policies relevant to aesthetic resources, Section 4.1.3 provides the significance criteria, and Section 4.1.4 analyzes impacts to visual quality from the Proposed Project activities.

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following scoping comment is applicable to this issue area and considered in preparing this section:

- Analyze the impact of bright lighting at the Pismo Beach Railyard (PBR) from decommissioning activities during coastal fog events.

4.1.1 Environmental Setting

This section describes the Areas of Visual Effect (AVEs) for the Proposed Project. AVEs are the areas from which Proposed Project activities would be visible. Each AVE considers the quality of the public viewpoint and sensitive visual resources within the surrounding landscape. The quality and sensitivity of the AVE will be used in Section 4.1.4 to evaluate the level of severity of Proposed Project impacts.

The AVEs for the Proposed Project include views of the DCPP site and waste transport activities, as well as the proposed railyard sites (PBR and SMVR-SB). The following is a description of the landscape and aesthetic features for each AVE.

DCPP Site AVE

The 750-acre NRC-licensed DCPP site is located within a larger approximately 12,000-acre owner-controlled property (i.e., existing Owner-Controlled Area [OCA]) that extends from Point Buchon (4 miles northwest of the DCPP site) to Point San Luis (6 miles southeast of the DCPP site), as shown in Figure 2-8. The existing OCA is bordered by the Pacific Ocean to the south and southwest and by the Irish Hills to the north and northeast. The DCPP site itself and the area immediately north and south of the site are located on a coastal terrace, with elevations ranging from 85 feet above sea level (for the power block) to 310 feet above sea level (for the ISFSI). The landscape surrounding the DCPP consists primarily of undisturbed grasslands with distant views of the Irish Hills.

The 750-acre DCPP site comprises a tightly clustered group of buildings dominated by the distinctive twin containment domes (i.e., DCPP Units 1 and 2), surrounded by parking areas, access roads, and transmission lines.

The visual quality of the DCPP AVE can be characterized by the following:

- **Surrounding Landscape.** The terraces north and south of the DCPP site are within San Luis Obispo County's combining designation for the Coastal Terrace of Irish Hills Sensitive Resource Area (SRA); the northern terrace is identified as having outstanding scenic quality (San Luis Obispo, 2009).[10] A remote section of the Irish Hills (within the existing OCA, northeast of the DCPP site) is within San Luis Obispo County's combining designation for the Upper Diablo Canyon SRA, which includes a waterfall on Diablo Creek that is identified as having significant scenic value (San Luis Obispo, 2009).
- **DCPP Site.** The DCPP site is extensively developed with electrical infrastructure. While the DCPP property is highly disturbed, the existing infrastructure is surrounded by natural hillsides, including an undeveloped north-facing slope in the northeastern portion of the DCPP site that would be the location for the proposed SE Borrow Site. There are no planning area standards for the 750-acre DCPP site that are specific to scenic resources (San Luis Obispo, 2009).
- **Public Views.** As there are no public roads within or adjacent to the existing OCA, the DCPP site is mostly isolated from adjacent public and private viewing areas in the County of San Luis

[10] Combining designations are special overlay land use categories that denote hazardous conditions or special resources. In some cases, specific standards have been adopted for an area where a combining designation is applied (San Luis Obispo, 2009).

Obispo. The DCPP site would be visible from fishing and recreational vessels that operate out of Morro Bay Harbor and Port San Luis Harbor. The only publicly accessible, land-based area from which the DCPP site is visible is a short section of the Point Buchon Trail approximately 2 miles northwest of the DCPP site.

Avila Beach AVE

The coastal community of Avila Beach is situated along San Luis Bay (i.e., Port San Luis Harbor). Avila Beach is a popular site for tourism, particularly for beach access. Decommissioning activities at the DCPP site would not be visible from Avila Beach. However, empty barges used for waste removal may be temporarily staged for up to two weeks in the outer moorings of San Luis Bay. Waste transport via truck would also utilize the local road network through the Avila Beach community. A discussion of the affected communities located along truck transport routes is included in Section 4.12, *Land Use, Planning, and Agriculture*.

The visual quality of the Avila Beach AVE can be characterized by the following:

- **Surrounding Landscape.** The Avila Beach community is identified as highly scenic with its coastal views of San Luis Bay and its backdrop of open hillsides (San Luis Obispo, 2007). The former site of the Unocal Oil Tank Farm is located immediately east of Avila Beach's commercial center; the tank farm was decommissioned in 1997 and the last above ground petroleum storage tank was dismantled in 1999 (San Luis Obispo County, 2015). Because this site sits on a coastal bluff, remaining structures onsite (water tanks and vacant buildings) are not visible from public access points within Avila Beach.
- **Bay/Harbor.** Activity within San Luis Bay includes commercial and recreational fishing and boating, which utilizes Harford Pier (i.e., Port San Luis Pier) and is visible from the Avila Beach shoreline. Approximately every 15 years, a barge is stationed in Port San Luis Harbor for up to 6 months during needed repairs to the breakwater (see discussion in Section 4.15, *Transportation*). Any activity that occurs within Port San Luis Harbor would be subject to planning area standards specific to maintaining compatibility with the Port's character and with the surrounding scenic resources (San Luis Obispo, 2009).
- **Public Views.** Vessel activity within Port San Luis Harbor is currently visible along the coastal areas of the Avila Beach community, which includes residential, recreational, commercial, and resort areas.

PBR Site AVE

The PBR site is located approximately 0.3 mile north of US-101 within the City of Pismo Beach and is accessible via Price Canyon Road and Bello Street (see Figure 2-3). This 25.5-acre site is owned by PG&E, and a portion of the site is actively used for parking, storage, and rail transport. The site is surrounded by development with residences to the southwest, a wastewater treatment plant to the south, the Union Pacific Railroad to the east, and agriculture and residences further east. Price Canyon Road travels west and north of the site. A middle school, church, police station, and fire station are located within the Pismo Heights planning area, which is further west of the site (west of Price Canyon Road).

The visual quality of the PBR AVE can be characterized by the following:

- **Surrounding Landscape.** The unincorporated San Luis Obispo County area located north and west of the Pismo Heights planning area is within the County's visual area combining designation and is subject to the County's scenic protection standards (San Luis Obispo, 2010 and 2022). US-101, through the City of Pismo Beach, is designated as an Eligible State Scenic Highway by the California Department of Transportation due to its views of the Pacific Ocean and the Santa Lucia Range (Caltrans, 2019). Price Canyon Road is identified as a scenic corridor by the City of Pismo Beach due to its views of the steeply sloped hillsides and open space within Price Canyon (Pismo Beach, 1993).
- **PBR Site.** The PBR site is adjacent to a scenic corridor (Price Canyon Road), and any development within the site would be subject to design review by the City of Pismo Beach (Pismo Beach, 1993).
- **Public Views.** The PBR site and the Union Pacific Railroad can be seen in the foreground from Price Canyon Road, with a background of the more extensive and scenic landscape of Price Canyon. The PBR site is not visible from US-101.

SMVR-SB Site AVE

The SMVR-SB site is located in a rural area of the County of Santa Barbara approximately 4.5 miles west of US-101 and is accessible by Betteravia Road (see Figure 2-4). The 28.4-acre site is currently used by the Santa Maria Valley Railroad and contains abandoned transloading facilities, warehouse space, and food grade storage silos. As noted in Section 2, *Project Description*, this site was previously operated as a sugar factory.

- **Surrounding Landscape.** The surrounding landscape consists primarily of agricultural fields and commercial agricultural development. The landscape is not identified by the County of Santa Barbara as a scenic resource (Santa Barbara, 2009).
- **SMVR-SB Site.** There are no planning area standards specific to scenic resources that are applicable to the SMVR-SB site; however, the site would be subject to the County of Santa Barbara's development standards for outdoor lighting (see discussion in Section 4.1.2).
- **Public Views.** The SMVR-SB site is visible from Betteravia Road. The views of the SMVR-SB site are similar to other land uses in the field of view (i.e., storage and truck transport associated with commercial agriculture).

4.1.2 Regulatory Setting

This section describes the relevant local laws, regulations, and policies for aesthetics. Appendix C includes a summary of the relevant federal and State laws, regulations, and policies that pertain to the Proposed Project.

Local Plans

County of San Luis Obispo

County of San Luis Obispo General Plan, Conservation and Open Space Element. The Conservation and Open Space Element (Chapter 9) includes policies to protect the County of San Luis

Obispo's scenic resources. Applicable policies address scenic resources, nighttime lighting, and utility infrastructure.

County of San Luis Obispo Local Coastal Program, Coastal Plan Policies. The County of San Luis Obispo Local Coastal Program has specific policies to protect visual resources within the coastal zone, including policies applicable to construction and restoration activities.

County of San Luis Obispo, San Luis Bay Area Plan, Coastal. The San Luis Bay Planning Area of San Luis Obispo County includes visual standards for new development within the Upper Diablo Canyon SRA, as well as policies for maintaining the scenic quality and character of Port San Luis.

County of San Luis Obispo Coastal Zone Land Use Ordinance. Section 23.04.320 of the Coastal Zone Land Use Ordinance identifies standards for outdoor lighting.[11]

City of Pismo Beach

City of Pismo Beach General Plan and Local Coastal Program. The City's General Plan Design Element and Conservation/Open Space Element identify policies for protecting visual resources, particularly within Price Canyon.

City of Pismo Beach Municipal Code. Section 17.24.100 of the City of Pismo Beach Municipal Code identifies the standards for outdoor lighting and glare.

County of Santa Barbara

Santa Barbara County Comprehensive Plan, Land Use Element. The Land Use Element includes policies to protect scenic qualities within certain rural and undeveloped areas of the County of Santa Barbara. One applicable policy requires compatibility of new structures within designated rural areas.

Santa Barbara County Land Use and Development Code. Section 35.30.120 of the Santa Barbara County Land Use and Development Code identifies standards for outdoor lighting.

Policy Consistency

Table 4.1-1 contains a list of local regulations and policies relevant to aesthetics, as well as an evaluation of the Proposed Project's consistency with each of these regulations and policies.

Table 4.1-1. Consistency with Applicable Aesthetic Plans, Policies, and Standards

Plan/Policy	Consistent?	Discussion
County of San Luis Obispo General Plan		
Policy VR 1.1: Adopt Scenic Protection Standards Protect scenic views and landscapes, especially visual Sensitive Resource Areas from incompatible development and land uses.	Consistent	The DCPP site is not located within an SRA for visual resources, and there are no planning area standards for the DCPP site that are specific to scenic resources.

[11] Outdoor lighting standards are applicable to all outdoor night-lighting sources installed after the effective date of Title 23 (1988), except for street lights located within public rights-of-way and all uses established in the Agriculture land use category. No land use permit is required for lighting facilities, though Title 19 of this code may require an electrical permit.

Table 4.1-1. Consistency with Applicable Aesthetic Plans, Policies, and Standards

Plan/Policy	Consistent?	Discussion
Policy VR 7.1: Nighttime Light Pollution Protect the clarity and visibility of the night sky within communities and rural areas, by ensuring that exterior lighting, including streetlight projects, is designed to minimize nighttime light pollution.	Consistent	The DCPP site is currently installed with lighting that is required for 24-hour operations, and the installation of additional lighting may be required as part of security infrastructure and to facilitate nighttime decommissioning activities. Given the remoteness of the DCPP site, the installation of additional nighttime lighting would not increase illumination to a degree that would be noticeable to the public.
Policy VR 9.2: Utility Service Lines Utility companies should prepare long-range corridor plans for service lines in consultation with local organizations and government agencies. New transmission lines that would be visually damaging should be designed to minimize visual effects. In addition, access roads and right-of-way clearing should be kept to the minimum necessary where new installation or repair of existing installations occurs.	Consistent	Phase 1 activities would remove DCPP structures and components that are not essential for ISFSI and GTCC Storage operations (i.e., internal plant transmission lines and support poles) and Phase 2 would restore the demolished areas to a more natural condition. These proposed decommissioning and restoration activities would support the requirement for long-range plans for utility lines.
County of San Luis Obispo Local Coastal Program, Coastal Plan Policies		
Visual and Scenic Resource Policy 1: Protection of Visual and Scenic Resources Unique and attractive features of the landscape, including but not limited to unusual landforms, scenic vistas and sensitive habitats are to be preserved protected, and in visually degraded areas restored where feasible.	Consistent	Phase 2 activities involve final site restoration of disturbed areas to a more natural state, which would substantially improve the visual quality of the DCPP site above existing conditions. While restoration activities would require the creation of the SE Borrow Site, this site would not be visible from the Point Buchon coastal access trail. Furthermore, the SE Borrow Site would be revegetated as part of the Proposed Project's revegetation plan. Proposed activities would support this policy to preserve and restore visual resources.
Visual and Scenic Resource Policy 5: Landform Alterations Grading, earthmoving, major vegetation removal and other landform alterations within public view corridors are to be minimized. Where feasible, contours of the finished surface are to blend with adjacent natural terrain to achieve a consistent grade and natural appearance.	Consistent	Phase 2 activities involve final site restoration of disturbed areas to a more natural state, which would substantially improve the visual quality of the DCPP site above existing conditions. Restoration would utilize the SE Borrow Site to reestablish the natural terrain of the outdoor Firing Range. The SE Borrow Site would not be visible from a public view corridor (i.e., Point Buchon coastal access trail), and would be revegetated as part of the

Table 4.1-1. Consistency with Applicable Aesthetic Plans, Policies, and Standards

Plan/Policy	Consistent?	Discussion
		Proposed Project's revegetation plan. Proposed activities would support this policy to preserve and restore visual resources.
County of San Luis Obispo, San Luis Bay Area Plan (Coastal)		
Chapter 8: Planning Area Standards **SRA 11. Upper Diablo Canyon-Transmission Lines** Future transmission lines in upper Diablo Canyon shall be confined to the existing corridor. All exposed grading cuts (except for actual roadways and structure sites) and areas of vegetation removal shall be graded and replanted to blend with existing terrain.	Consistent	Phase 1 activities would remove DCPP structures and components that are not essential for ISFSI and GTCC Storage operations (i.e., internal plant transmission lines and support poles), and Phase 2 would restore the demolished areas to a more natural state. The SE Borrow Site created during Phase 2 would be revegetated as part of the Proposed Project's revegetation plan. The proposed decommissioning and restoration activities would support this planning area standard.
Port San Luis District-wide Policies: **Visual and Scenic Resources Policy 1. Waterfront Character.** Protect scenic qualities including the time-honored character of Port San Luis and compatibility with surrounding uses and views.	Consistent	Temporary staging of empty barges in Port San Luis Harbor would be short-term (up to two weeks at a time) and would not introduce new structures or activities that would alter the character of the Port. Barge staging would be compatible with marine activities within the Port.
Harford Pier Planning Sub-Area: **Policy 1. Historic Character** Maintain and improve Harford Pier in accordance with the historic character and use of the facility. The heavy timber wharf character shall be used as the basis for design of any additional structures and improvements consistent with the adopted Harford Pier Design Guidelines of June 1990.	Consistent	During staging, barges would utilize outer moorings within Port San Luis Harbor. No staging activities would occur at the Harford Pier.
County of San Luis Obispo Coastal Zone Land Use Ordinance		
Section 23.04.320: Outdoor Lighting **Illumination only:** Outdoor lighting is to be used for the purpose of illumination only and is not to be designed for or used as an advertising display. **Light directed onto lot:** Light sources are to be designed and adjusted to direct light away from any road or street, and away from any dwelling outside the ownership of the Applicant. **Minimization of light intensity:** No light or glare shall be transmitted or reflected in such concentration or intensity as to be detrimental or harmful to persons, or to interfere with the use of surrounding properties or streets.	Consistent	The DCPP site is currently installed with lighting that is required for 24-hour operations. Installation of additional lighting may be required as part of security infrastructure and to facilitate nighttime decommissioning activities during Phase 1. However, nighttime lighting at the DCPP site would not noticeably increase above existing conditions. Given the site's remote location, new lighting would not be transmitted or reflect toward any public road or residence.

Table 4.1-1. Consistency with Applicable Aesthetic Plans, Policies, and Standards

Plan/Policy	Consistent?	Discussion
Light sources to be shielded: ▪ Ground illuminating lights: Any light source used for ground area illumination except incandescent lamps of 150 watts or less and light produced directly by the combustion of natural gas or other fuels, shall be shielded from above in such a manner that the edge of the shield is level with or below the lowest edge of the light source. Where any light source intended for ground illumination is located at a height greater than eight feet, the required shielding is to extend below the lowest edge of the light source a distance sufficient to block the light source from the view of any residential use within 1,000 feet of the light fixture. ▪ Elevated feature illumination: Where lights are used for the purpose of illuminating or accenting building walls, signs, flags, architectural features, or landscaping, the light source is to be shielded so as not to be directly visible from off-site. **Height of light fixtures:** Free-standing outdoor lighting fixtures are not to exceed the height of the tallest building on the site. **Street Lighting:** Street lighting shall be designed to minimize light pollution by preventing the light from going beyond the horizontal plane at which the fixture is directed.		During Phase 2, nighttime lighting would only be associated with the continued ISFSI/GTCC operations. Removal of DCPP buildings and associated infrastructure would contribute to a reduction in illumination, and Phase 2 would not create a new source of light or glare at the DCPP site. No outdoor lighting would be required for temporary barge staging in Port San Luis Harbor.
City of Pismo Beach General Plan and Local Coastal Program		
CO-22: Price Canyon Open Space and Study Area Any development in Price Canyon and the surrounding hills shall emphasize the open space aspects of the Price Canyon corridor. Preferred views from Price Canyon Road shall be of open space rather than development. Pismo Beach, in cooperation with San Luis Obispo County and affected property owners, shall prepare a visual and open space study for the Price Canyon corridor [as illustrated in Figure CO-2 from the City of Pismo Beach General Plan and LCP]. This plan shall focus on retaining the corridor as a scenic entrance to Pismo Beach and an open space corridor separating Pismo Beach from the Route 227 corridor.	Consistent	PBR site modifications would occur in previously disturbed areas, and no new structures would be constructed. Use of the PBR site for waste transport activities would be compatible with ongoing activities at PBR and would not alter the scenic quality of the Price Canyon area.
D-24: Price Canyon Road Price Canyon Road for a distance of 4.7 miles from the intersections with Highway 227 to U.S. 101 is hereby designated as a Pismo Beach scenic highway. Price Canyon Road is a scenic entryway to Pismo Beach from the interior of San Luis Obispo County. Scenic views consist of steeply sloped hillsides with oak woodland and streamside riparian	Consistent	No new structures would be constructed within the PBR site that could alter the character of Price Canyon Road. Use of the PBR site for waste transport activities would be compatible with ongoing activities at PBR.

Table 4.1-1. Consistency with Applicable Aesthetic Plans, Policies, and Standards

Plan/Policy	Consistent?	Discussion
vegetation. Its character is derived from the undeveloped rural nature of the canyon that it traverses. To implement this policy the City shall: ▪ Request San Luis Obispo County to designate Price Canyon Road as a County Scenic Highway. ▪ Conduct a special design study of this corridor (see Conservation Element CO-22, Price Canyon Open Space & Study Area, City of Pismo Beach General Plan and LCP). Require design review for development on all properties abutting the road right-of-way.		
City of Pismo Beach Municipal Code		
Section 17.24.100: Outdoor Lighting and Glare All exterior lighting on private property within the City shall comply with the requirements of this section. **Application Materials.** Applications for land use permit approval for multi-family dwellings, non-residential uses, and outdoor recreation and athletic facilities including sport courts shall include complete photometric plans in addition to all other information and materials required by the department. **Lighting Standards.** All new exterior lighting shall comply with the following requirements. ▪ Lighting shall be energy-efficient and shielded or recessed so that direct glare and reflections are confined to the maximum extent feasible within the boundaries of the site and shall be directed downward and away from adjoining properties and public rights-of-way. ▪ No permanently installed lighting shall blink, flash, or cast more than 1.0 foot-candle of illumination on lighted areas. ▪ All lighting fixtures shall be appropriate in scale, intensity, and height to the use they are serving. ▪ Security lighting shall be provided at all entrances/ exits, except in the residential zoning districts. Exterior lighting within the V overlay zoning district shall be limited to that necessary for safety and security, as determined by the director.	Consistent	The Proposed Project would not install nighttime lighting within the PBR site, nor would it install new structures that could create a source of glare.
Santa Barbara County Comprehensive Plan		
Land Use Element, Visual Resource Policy 2 In areas designated as rural on the land use plan maps, the height, scale, and design of structures shall be compatible with the character of the surrounding natural environment, except where technical requirements dictate otherwise. Structures shall be subordinate in appearance to natural landforms; shall be designed to follow the	Consistent[1]	The SMVR-SB site is an operational railyard that contains transloading, storage, and rail facilities. Proposed modifications would be limited to a new 900-foot rail spur, access road improvements, and temporary use of heavy equipment. None of the modifications would be of a height or scale

Table 4.1-1. Consistency with Applicable Aesthetic Plans, Policies, and Standards

Plan/Policy	Consistent?	Discussion
natural contours of the landscape; and shall be sited so as not to intrude into the skyline as seen from public viewing places.		that would be incompatible with the character of the surrounding rural environment. Furthermore, a temporary 8-foot-high chain link perimeter fence with an attached privacy screen would be temporarily installed to shield the site from adjacent uses.
Santa Barbara County Land Use and Development Code		
Section 35.30.120: Outdoor Lighting All exterior lighting shall be hooded and no unobstructed beam of exterior light shall be directed toward any area zoned or developed residential. Lighting shall be designed so as not to interfere with vehicular traffic on any portion of a street.	Consistent[1]	Temporary lighting would be installed at the SMVR-SB site to accommodate nighttime activities. New lighting could spill-over onto adjacent properties. As noted in Section 2, *Project Description*, the project includes the installation of an 8-foot fence with privacy screening. In addition, the analysis presented below (Section 4.1.4) requires Mitigation Measure AES-1 for a lighting plan, which would further reduce impacts from lighting and glare on adjacent properties.

Sources: Pismo Beach, 1993, 2021; San Luis Obispo, 2007, 2009, 2010, 2019; Santa Barbara, 2016, 2020.
[1] As described in Section 1.3.3.2, *Surface Transportation Board*, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction over railyards (e.g., SMVR-SB).

4.1.3 Significance Criteria

The significance criteria used to evaluate the Proposed Project's impacts to aesthetics are based on Appendix G of the State CEQA Guidelines. According to Appendix G of the State CEQA Guidelines, a significant impact would occur if the Proposed Project would:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, natural landforms, and historic buildings within a State scenic highway.
- In non-urbanized areas, substantially degrade the existing visual character or quality of the public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage points).
- Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

4.1.4 Environmental Impact Analysis and Mitigation

Impact AES-1: Adversely affect a scenic vista (Class III: Less than Significant).

Phase 1

DCPP Project Site

As described in Section 4.1.1, the existing OCA surrounding the DCPP site is characterized as having outstanding scenic quality. However, the DCPP site is not within a designated scenic vista given its remoteness from public and private viewing areas. None of the Proposed Project activities would occur within the visual resource SRAs located in the surrounding landscape. No impact to a scenic vista would occur from Phase 1 activities at the DCPP site.

Barge Staging

Project activity within Port San Luis Harbor may include staging empty barges within the Port's outer moorings for up to two weeks. While these barges would be visible from Avila Beach, they would not substantially alter scenic views from the coast. The presence of the barges would be short-term and would be consistent with existing views of commercial and recreational fishing and boating. Furthermore, a barge is currently stationed within the Port approximately every 15 years for repair activities. The Proposed Project would not install new structures or other permanent features within Port San Luis Harbor that would alter the character of the Port. Impacts to a scenic vista would be less than significant (Class III).

Railyards

Pismo Beach Railyard. The PBR site is within the foreground views from a scenic corridor (i.e., Price Canyon Road). Rail transport activities would occur in previously disturbed areas, and modifications at the PBR site would be limited to refurbishing approximately 1,100 feet of existing track. There would be no new structures or other permanent features that could noticeably alter scenic views from Price Canyon Road. Impacts to a scenic vista would be less than significant (Class III).

SMVR-SB. The SMVR-SB site is not within a designated scenic vista, and there are no planning area standards specific to scenic resources that are applicable to the site. No impact to a scenic vista would occur from rail transport activities within the SMVR-SB site.

Phase 2

Phase 2 activities would include demolition of remaining utilities and structures (i.e., structures not essential for ISFSI and GTCC Storage operations), creation of the SE Borrow Site to support DCPP site restoration, and final surveys. These activities would not occur within a designated scenic vista, and they would not be visible outside of the existing OCA. No impact to a designated scenic vista would occur during Phase 2 activities within the DCPP site. As there would be no Phase 2 activities at the railyards, no impact would occur at those sites.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. These activities would not occur within a designated scenic vista, and they would not be visible outside of the existing OCA. No impact to a designated scenic vista would occur during these post-decommissioning operational activities within the DCPP site.

Future Actions. Marina operations would not occur within a designated scenic vista. There would be no impact to a scenic vista during future marina use.

Mitigation Measures for Impact AES-1. No mitigation measures are required.

Impact AES-2: Substantially damage sensitive scenic resources (No Impact).

Phase 1

DCPP Project Site

The DCPP site is developed with nuclear energy generation equipment and supporting infrastructure and does not contain sensitive scenic resources. While sensitive scenic resources are located in the surrounding OCA (i.e., Coastal Terrace of Irish Hills SRA and Upper Diablo Canyon SRA), no Phase 1 activities would occur at or near those sites. No impact to a sensitive scenic resource would occur from Phase 1 activities within the DCPP site.

Barge Staging

Temporary staging of empty barges within Port San Luis Harbor would not damage a sensitive scenic resource. The barges would utilize the Port's outer moorings in a manner that is consistent with previous barge activities within the Port. There would be no staging activities that would create a permanent change to scenic resources in Port San Luis Harbor. No impact to a sensitive scenic resource would occur.

Railyards

Pismo Beach Railyard. The PBR site is an operating PG&E material and storage facility that does not contain sensitive scenic resources. Phase 1 activities would be limited to the current operations at the PBR site and would not impact sensitive scenic resources associated with Price Canyon. No impact to a scenic resource would occur from Phase 1 activities within the PBR site.

SMVR-SB. The SMVR-SB site is an operational railyard that contains transloading, storage, and rail facilities. This railyard does not contain sensitive scenic resources, and there are no identified scenic resources within the surrounding landscape. No impact to a scenic resource would occur from Phase 1 activities within the SMVR-SB site.

Phase 2

Phase 2 activities would primarily occur within the DCPP site, which does not contain a sensitive scenic resource. No Phase 2 activities would occur at or near scenic SRAs within the OCA. There would be no impact to scenic resources during Phase 2 activities.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, post-decommissioning activities (i.e., operation of the GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings) would occur within the DCPP site, which does not contain a sensitive scenic resource. None of these activities would occur at or near scenic SRAs within the OCA. There would be no impact to scenic resources during new facility operations.

Future Actions. Marina operations would not occur at or near scenic SRAs within the OCA. There would be no impact to scenic resources during future marina use.

Mitigation Measures for Impact AES-2. No mitigation measures are required.

Impact AES-3: Substantially degrade the visual character or quality of the site and its surroundings (Class III: Less than Significant).

Phase 1

DCPP Project Site

As discussed in Section 4.1.1, the DCPP AVE includes the electrical generation infrastructure within the 750-acre site, surrounded by a relatively undeveloped landscape. The AVE north and south of the DCPP site is considered to have substantial scenic quality. While Phase 1 would involve extensive demolition, waste removal, and construction activities within the DCPP site, these activities would not extend outside of the developed and disturbed areas currently utilized by the DCPP. New buildings constructed as part of the Proposed Project, including the GTCC Storage Facility, Security Building, indoor Firing Range, Storage Buildings (Security Building, Vertical Cask Transporter [VCT] Warehouse, Security Warehouse), and temporary decommissioning office building would be constructed in developed areas of the DCPP site and would blend in with the existing character of the site. No alteration would occur to the natural landscape north and south of the DCPP site. Impacts to the visual character of the DCPP AVE would be less than significant (Class III).

Barge Staging

Temporary staging of empty barges within Port San Luis Harbor would not have the potential to degrade the visual character or quality of the Avila Beach AVE. Barges would utilize the existing outer moorings within the Port, and there would be no new structure that would create a permanent change or alter the visual character of Port San Luis Harbor. Given the short-term nature of barge staging activities, there would be no impact to the visual character or quality of Avila Beach and its surroundings.

Railyards

Pismo Beach Railyard. The PBR AVE includes the scenic area of Price Canyon. Although Phase 1 activities within the PBR site would be visible from a scenic corridor (i.e., Price Canyon Road), the extensive and scenic landscape of Price Canyon would remain the dominant feature within the AVE during Phase 1 activities. Currently the PBR site is used for transport, and Phase 1 activities would occur in previously disturbed areas with minimal modifications to the site (i.e., refurbishment of approximately 1,100 feet of existing track). There would be no new structures or other permanent features that could degrade the visual character or quality of the surrounding Price Canyon area. Impacts to visual character from public views along Price Canyon Road would be less than significant (Class III).

SMVR-SB. The AVE for the SMVR-SB site is characterized by ongoing transloading and warehouse activity, and adjacent fields and commercial agricultural development. During Phase 1, activities within the SMVR-SB site would require infrastructure modifications that include the refurbishment of existing rail spurs, access road improvements, and temporary use of heavy equipment for loading and unloading waste materials. The SMVR-SB site modifications would be screened by a temporary 8-foot-high chain link perimeter fence with an attached privacy screen. With installation of the proposed privacy screening, Phase 1 activities would not alter the AVE for the SMVR-SB site and impacts to the visual character would be less than significant (Class III).

Phase 2

Phase 2 activities would occur after the removal of DCPP buildings that are not essential for ISFSI and GTCC Storage operations. Phase 2 involves final site restoration of disturbed areas to natural conditions, which would require creation of the SE Borrow Site as a source of fill material. Areas that may be visible to the public following Phase 2 would be largely restored to their original contour and would appear as a more natural condition from a public vantage point (i.e., Point Buchon coastal access trail). While the SE Borrow Site would not be visible from these public vantagepoints, this Borrow Site would be revegetated as part of the Proposed Project's revegetation plan. Over the long-term, the visual quality of the DCPP site would be substantially improved above existing conditions. Improvements to the visual character and quality of the DCPP site would be beneficial, and no adverse impact would occur. No impact would occur at the railyards as there would be no Phase 2 activities at those sites.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site (i.e., operation of the GTCC Storage Facility, Security Building, indoor Firing Range, Storage Buildings) would not alter the long-term improvement of the visual quality of the DCPP above existing conditions. Improvements to the visual character and quality of the DCPP site would remain beneficial during new facility operations, and no adverse impact would occur.

Future Actions. Marina operations would not alter the long-term improvement of the visual quality of the DCPP above existing conditions. No adverse impact to the character of the DCPP site would occur during future marina use.

Mitigation Measures for Impact AES-3. No mitigation measures are required.

Impact AES-4: Create new sources of light and glare (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

As an existing nuclear generating station, the DCPP site is currently installed with lighting that is required for 24-hour operations. Installation of additional lighting may be necessary for security infrastructure and to facilitate nighttime decommissioning activities. However, given the remoteness of the DCPP site from public view, additional nighttime lighting is not expected to notably increase the site's illumination. Similarly, on-site equipment required for decommissioning would not be visible to the public, and therefore would not create a new source of glare. Impacts associated with light and glare would be less than significant (Class III).

Barge Staging

Temporary staging of empty barges within Port San Luis Harbor would not create a new source of light or glare. Use of the Port's outer moorings would be short-term (up to two weeks at a time), and staging activities would not install new structures or other permanent features within the Port. Furthermore, barge staging would not require the use of nighttime lighting. No light or glare impact would occur.

Railyards

Pismo Beach Railyard. The PBR site is an operating PG&E material and storage facility. Modification of the PBR site would be limited to refurbishing approximately 1,100 feet of existing track. The Proposed Project would not install nighttime lighting within the PBR site, nor would it install new structures that could create a source of glare. There would be no impact associated with a new light or glare source at the PBR site.

SMVR-SB. Temporary lighting would be installed at the SMVR-SB site to accommodate nighttime activities, which would include unloading overnight truck shipments of waste and loading this waste onto rail cars. The SMVR-SB site would be screened from adjacent land uses by an 8-foot-high fabric covered fencing (see Section 4.11, Table 4.11-1, for a list of land uses near the railyards). To ensure lighting used during nighttime operations would not spill-over onto adjacent properties, MM AES-1 (*SMVR Lighting Guidelines*) is required. Implementation of MM AES-1 would control any temporary or permanent lighting at the SMVR site in order to prevent a measured increase in illumination onto adjacent properties.[12] Impacts from a new source of nighttime lighting at the SMVR-SB site would be less than significant with mitigation (Class II).

[12] Sensitive receptors such as residences are particularly sensitive to nuisance effects from construction (e.g., nighttime lighting, noise, dust, traffic). Section 4.11, Table 4.11-1, includes a list of sensitive receptors within 0.25 mile of the Proposed Project.

Phase 2

Following the decommissioning and removal of DCPP buildings during Phase 1, nighttime lighting would only be associated with the continued ISFSI/GTCC operations. Removal of DCPP buildings and associated infrastructure would contribute to a reduction in illumination, and Phase 2 would not create a new source of light or glare at the DCPP site. As there would be no Phase 2 activities at the railyards, no impact would occur at those sites.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site (i.e., operation of the GTCC Storage Facility, Security Building, indoor Firing Range, Storage Buildings) would not require an increase in nighttime lighting or glare above existing conditions. An overall reduction in illumination would occur at the DCPP site due to the removal of DCPP buildings and associated infrastructure during Phase 1. There would be no impact associated with a new light or glare source from new facility operations.

Future Actions. Marina operations would not require an increase in nighttime lighting or glare above existing conditions. There would be no impact associated with a new light or glare source during future marina use.

Mitigation Measures for Impact AES-4.

AES-1 **SMVR Lighting Guidelines.** The Applicant or its designee shall develop a Lighting Plan for the SMVR-SB site that must be submitted to the San Luis Obispo County Planning and Building Department and Santa Barbara County for review and approval prior to installation of new lighting at the SMVR-SB site. The Lighting Plan must show the location and height of all exterior lighting fixtures with arrows showing the direction of light being cast by each fixture, as well as a description of the lamp or bulb type, wattage, lumen output, beam angle, and shielding. The Lighting Plan shall require all new exterior lighting to meet the following standards:

- Must be energy-efficient;
- Shielded or recessed so that direct glare and reflections are confined to the maximum extent feasible within the boundaries of the site;
- Directed downward and away from adjoining properties and public rights-of-way;
- Must not blink or flash (except as mandated for railroad operations); and
- Must not cause illumination in adjacent residential communities to exceed 0.5 foot-candle.

4.1.5 Cumulative Impact Analysis

Geographic Extent Context

A cumulative aesthetic impact has the potential to occur from the construction and operation of multiple projects that would be located in the same AVE as the Proposed Project. Projects within the same AVE could affect the same sensitive visual resources or public viewpoints to a degree that the combined impact could be cumulatively considerable. Cumulative projects that would be applicable to this aesthetics analysis include those projects listed in Table 3-1 that are

geographically located within the Proposed Project AVE, which includes views of the DCPP site, barge staging, and the railyard sites. The following cumulative projects are in proximity to the Proposed Project's AVE for visual resources and are further discussed in this analysis:

Diablo Canyon Power Plant

- Orano System ISFSI Modifications (#1)

Offshore/Energy Projects

- Vandenberg Offshore Wind Energy Projects (#18)
- South Ellwood Project (#19)
- Rincon Onshore and Offshore Facilities (#20)
- Morro Bay Wind Energy Area (#22)
- Port San Luis Breakwater Repair (#25)

Cumulative Impact Analysis

Phase 1

While the Orano System ISFSI Modifications (#1) would occur within the DCPP AVE, this cumulative project site would be located at the existing ISFSI site. Construction activities to install this cumulative project would not extend outside of the developed and disturbed areas currently utilized by the DCPP. As discussed in Section 4.1.4 above, the DCPP site is not within a designated scenic vista (Impact AES-1) and does not contain sensitive scenic resources (Impact AES-2). No alteration would occur to the natural landscape north and south of the DCPP site during construction of the Orano System (Impact AES-3). Any nighttime lighting required for the Orano System is not expected to notably increase the DCPP site's illumination and would not create a new source of light or glare (Impact AES-4). Therefore, the Orano System ISFSI Modifications would not combine with other Phase 1 activities within the DCPP AVE to create a visual effect that is cumulatively considerable.

Cumulative projects that may require use of a barge during construction, repair, or decommissioning include future offshore wind projects (Vandenberg Offshore Wind Energy Projects, #18 and Morro Bay Wind Energy Area, #22), Port San Luis Breakwater Repair (#25), and other proposed offshore activities (South Ellwood Project, #19 and Rincon Onshore and Offshore Facilities, #20). As discussed in Section 4.1.4 above, the temporary use of a barge during Proposed Project decommissioning would not alter scenic vistas from Avila Beach (Impact AES-1), would not create a permanent change to scenic resources in Port San Luis Harbor (Impact AES-2), and would not alter the visual character or quality of Avila Beach and its surroundings (Impact AES-3). Furthermore, barge staging during Proposed Project decommissioning would not require the use of nighttime lighting (Impact AES-4). Currently, the proposed offshore wind projects are not anticipated to require barge staging in Port San Luis Harbor. Given that the barge-staging activity for the Proposed Project would not install any new structures or permanent features and would be short-term (i.e., up to two weeks at a time), any potential overlap of these barge activities with the construction of other cumulative projects would not be cumulatively considerable.

Phase 2

As discussed in Section 4.1.4, the Proposed Project would improve the visual quality of the DCPP in the long term. Phase 2 activities at the DCPP would not contribute an adverse effect to aesthetics that is cumulatively considerable. Phase 2 activities would not occur at the railyards and therefore no cumulative impact would occur at those sites.

Post-Decommissioning Operations

The Proposed Project would improve the visual quality of the DCPP in the long term, and new facility operations, including future Marina use, would not alter this long-term improvement of aesthetics above existing conditions. Post-decommissioning operations would not contribute an adverse effect to aesthetics that is cumulatively considerable.

4.1.6 Summary of Significance Findings

Table 4.1-2 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project.

Table 4.1-2. Summary of Impacts and Mitigation Measures – Aesthetics

Impact Statement	Impact Significance Class				Mitigation Measures
	Phase 1		Phase 2	Post-Decom	
	DCPP	*PBR/SB*	*DCPP*	*Ops/Marina*	
AES-1: Adversely affect a scenic vista	III	III/NI	NI	NI/NI	None required
AES-2: Substantially damage sensitive scenic resources	NI	NI/NI	NI	NI/NI	None required
AES-3: Substantially degrade the visual character or quality of the site and its surroundings	III	III/III	NI	NI/NI	None required
AES-4: Create new sources of light and glare	III	NI/II	NI	NI/NI	**AES-1:** SMVR Lighting Guidelines
Cumulative Impact	Not cumulatively considerable		Not cumulatively considerable		None required

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long-Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

4.2 Air Quality

This section describes the air quality within the air basins that would be affected by the Proposed Project, identifies applicable air district significance thresholds, assesses the Proposed Project's impacts to air quality and their significance, and recommends measures to avoid or substantially reduce any effects found to be potentially significant. The environmental setting is based on information obtained from the Proposed Project description, as well as the Pacific Gas and Electric Company Application Package for the Diablo Canyon Power Plant Decommissioning Project (PG&E, 2021a), including the Traffic Impact Assessment (PG&E, 2021b), the Air Quality and GHG Impact Assessment Report (PG&E, 2021c), and a follow-up technical memorandum of emission calculation updates (PG&E, 2022a). Greenhouse gases (GHGs) are addressed in Section 4.9, *Greenhouse Gas Emissions*.

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and considered in preparing this section:

- Ensure consistency with local and regional plans and evaluate whether direct and indirect emissions are accounted for in emissions growth assumptions.
- Evaluate air quality impacts associated with stationary sources and area sources including locomotive engines; off-road construction equipment; on-road equipment (on-road heavy-duty trucks, light-duty trucks, and passenger vehicles); marine vessel and barging activities; and all stationary and portable diesel engines, including the temporary 400-ton gantry crane and two truck-mounted cranes at the Santa Maria Valley Railroad (SMVR) site.
- Address potential air quality and health impacts at the SMVR site in Santa Barbara County.
- Complete and incorporate a Health Risk Assessment (HRA).
- Mitigate and minimize marine vessel emissions.

4.2.1 Environmental Setting

Existing Site Conditions

The baseline and environmental setting for the Proposed Project includes the DCPP in an "operating" status. When operations cease, PG&E will retire DCPP and transition DCPP into a "decommissioning" status.

The DCPP site maintains air permits to operate an auxiliary boiler, a paint spray booth, portable sandblast and abrasive blast equipment, non-retail gasoline dispensing equipment, and various diesel-powered generators and emergency pump engines. In data reported to the California Air Resources Board (CARB) for 2019, minor stationary sources at the DCPP site emitted air pollutants as follows: 16.5 tons per year of nitrogen oxides (NO_X); 4.4 tons per year of carbon monoxide (CO); 1.0 ton per year of diesel particulate matter (DPM); and less than one ton per year for other pollutants (CARB, 2021). During the transition into decommissioning or after all spent nuclear fuel is transferred to the independent spent fuel storage installation (ISFSI), the

closure of DCPP would cause eventual shutdown of the existing stationary sources at the site (PG&E, 2022c).

In addition to the DCPP site, the Proposed Project would involve the use of the Pismo Beach Railyard (PBR) as a contingency site for the transport of non-hazardous and non-radiological waste, and one Santa Maria Valley Railyard Facility (SMVR) site in Santa Barbara County (as discussed in Section 2.2). At present, the PBR site is owned by PG&E and used as an equipment staging area and vehicle maintenance facility in support of PG&E's Transmission and Distribution operations. The SMVR-SB site (i.e., Betteravia Industrial Park) does not appear to be actively used but currently serves as storage for rail cars (PG&E, 2021e).

Regional Climate and Meteorology

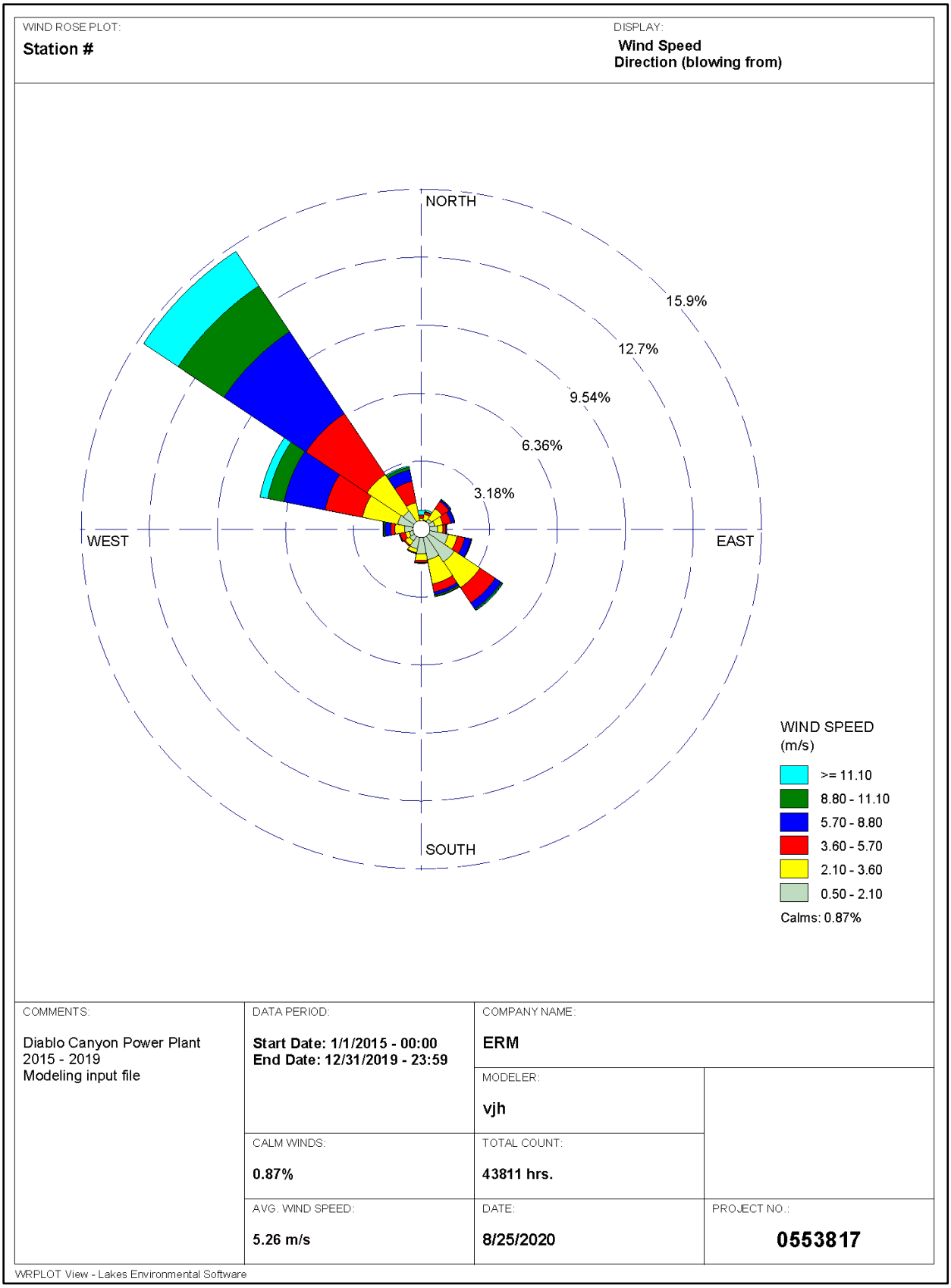
The DCPP facility, including the 750-acre NRC-licensed site, is located on California's Central Coast, bordered by the Pacific Ocean in San Luis Obispo County, approximately 7 miles northwest of Avila Beach. This area is characterized by a semi-arid Mediterranean-type climate. Approximately 18 inches of annual average precipitation occurs in the area generally between October and April, according to records from the National Oceanic and Atmospheric Administration (NOAA) meteorological station at the San Luis Obispo County Regional Airport, approximately 5.5 miles inland (NOAA, 2022).

Near the coast, summers and winters are mild compared to locations further inland. The DCPP site is within the coastal climate zone, where the ocean's influence is significant. The prevailing climate is semi-arid to arid. Low-level temperature inversions (from 1,000 to 2,500 feet) occur frequently over the coastal area. This tends to limit vertical dispersion of pollutants and can lead to increased concentrations of pollutants inland where prevailing winds carry the air. Prevailing onshore winds at DCPP are from the northwest, which is the prevailing daytime wind direction for the entire county. The winds are also greatly influenced by local topography. At night, as the sea breeze dies, weak drainage winds flow down the coastal mountains and valleys to form a light, easterly land breeze. Occasional winter storms and offshore flows reverse the sea breezes so that winds flow from the east.

The wind flow in the coastal areas is dominated by the North Pacific High, which enhances onshore winds from May to September. From November through April, this North Pacific High moves south, which allows storms in the region.

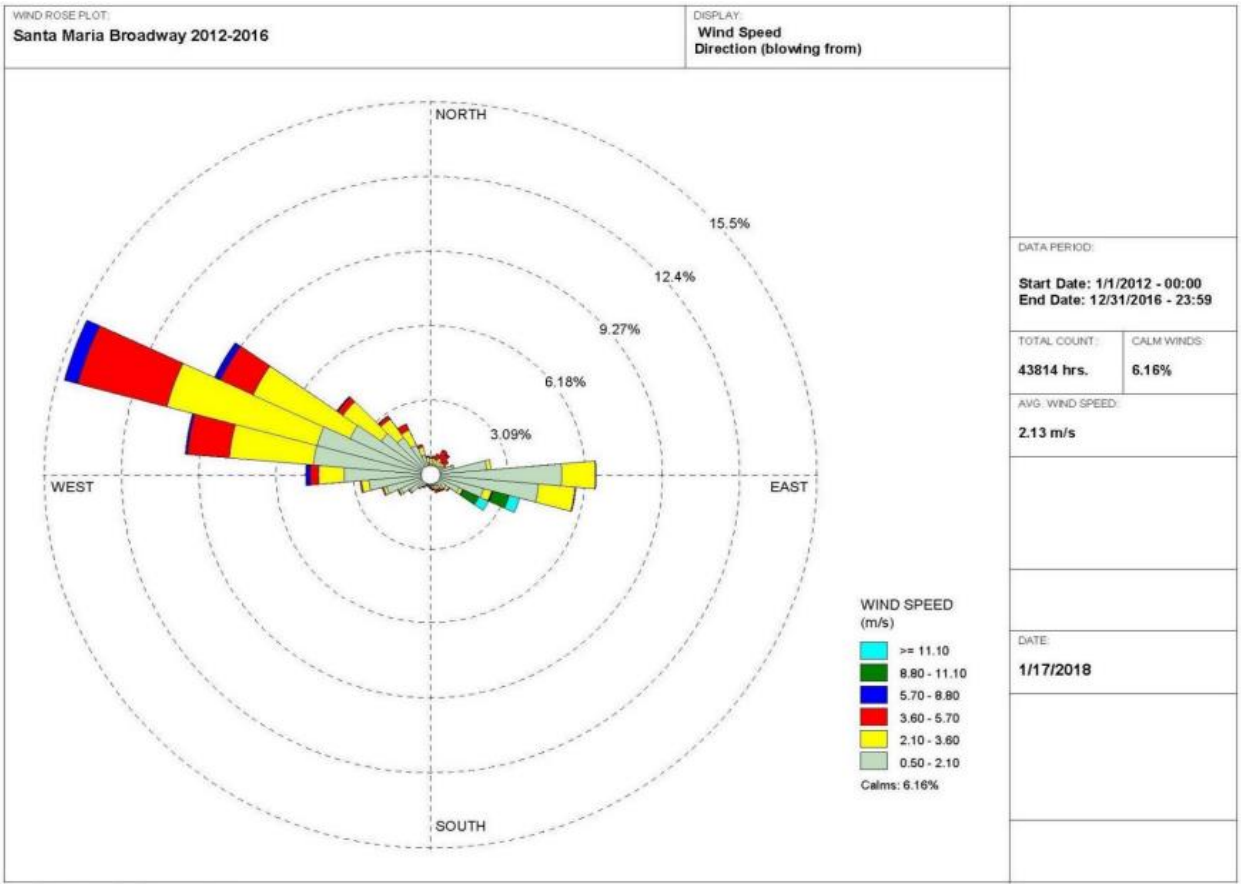
Typical wind speeds and directions for the DCPP site, as depicted in the wind rose in Figure 4.2-1, show a predominant onshore wind flow from the northwest, and a weaker wind from the southeast. DCPP is located in the Irish Hills, along steep cliffs on the shore of the Pacific Ocean. Typical wind speeds and directions in the Santa Maria area, which is representative of the SMVR-SB and PBR sites, are depicted in the wind rose in Figure 4.2-2.

Figure 4.2-1. DCPP Wind Rose 2015 – 2019



Source: PG&E, 2021c - Figure 6.2.1.1-1.

Figure 4.2-2. Santa Maria Wind Rose 2015 – 2019



Source: PG&E, 2021b - Figure 2.3.1.6-5

Affected Air Quality Jurisdictions

The Proposed Project area where decommissioning activities would occur is within the South Central Coast Air Basin, and includes all of San Luis Obispo, Santa Barbara, and Ventura Counties. The DCPP and PBR sites are under the jurisdiction of the San Luis Obispo County Air Pollution Control District (SLOCAPCD also referred to as SLOAPCD), and the SMVR-SB site is under the jurisdiction of the Santa Barbara County Air Pollution Control District (SBCAPCD).

Transportation-related activities for the Proposed Project would require travel along routes to access out-of-state disposal site destinations. Waste transportation by truck and train are anticipated to follow routes traversing southerly through Santa Barbara and Ventura Counties, and then easterly through Los Angeles, San Bernardino, and Riverside Counties, and on to disposal sites out of state (see Section 2.3.19.1, *Waste Transportation*). Barges leaving the DCPP site to transport waste would travel offshore into federal waters and head north to Oregon, and south to the Port of Long Beach and Santa Catalina Island for Discharge Structure cofferdam fill and restoration materials (see Section 2.3.14, *Discharge Structure Removal*, and Section 2.3.15, *Discharge Structure Restoration*).

Emissions related to transportation would therefore occur in air basins within California but far removed from the DCPP site, including the South Coast, San Joaquin Valley, and Mojave Desert Air Basins.

Proposed Project waste transportation could occur in the following air districts:

- San Luis Obispo County Air Pollution Control District (SLOCAPCD)
- Santa Barbara County Air Pollution Control District (SBCAPCD)
- San Joaquin Valley Air Pollution Control District (SJVAPCD)
- Ventura County Air Pollution Control District (VCAPCD)
- South Coast Air Quality Management District (SCAQMD)
- Mojave Desert Air Quality Management District (MDAQMD)

Air Pollutants and Monitoring Data

Air pollutants are defined as two general types: (1) "criteria" air pollutants, representing pollutants with established national and state health- and welfare-based ambient air quality standards (AAQS); and (2) toxic air contaminants (TACs), which may lead to serious illness or increased mortality even when present at relatively low concentrations. An additional public health related issue of concern is Valley Fever, a disease caused by soil-bound fungal spores becoming airborne as part of fugitive dust emissions generated from excavation and other ground-disturbing activities.

Criteria Air Pollutants

The US Environmental Protection Agency (USEPA), CARB, and air districts classify an area as attainment (compliance), unclassified (insufficient data available), or nonattainment (non-compliance) depending on the status of monitored ambient air quality data with the AAQS.

Table 4.2-1 provides the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS) and summarizes air quality from 2019-2021 collected at the nearest representative monitoring stations to the DCPP site. Prior to 2019, ozone concentrations in the area have exceeded the federal and state 8-hour ozone standards, and recent data shows that PM10 concentrations continue to exceed the state 24-hour and annual standards.

Table 4.2-2 shows the attainment status of criteria pollutants for San Luis Obispo County based on the National and California standards, and Table 4.2-3 shows the attainment status for Santa Barbara County.

Table 4.2-1. Ambient Air Quality Standards and Background Data

Pollutant	Averaging Time	Standards and Maximum Concentrations					Health Effects
		CAAQS	NAAQS	2019	2020	2021	
Ozone [2]	1 Hour (ppm)	0.090	--	0.064	0.067	0.060	Breathing difficulty, lung tissue damage
	8 Hour (ppm)	0.070	0.070	0.054	0.064	0.055	
Coarse Particulate Matter (PM10)[2]	24 Hour (µg/m^3)	50	150	136	111	109	Increased respiratory disease, lung damage, cancer, premature death
	Annual (µg/m^3)	20	--	24.9	27.5	28.6	
Fine Particulate Matter (PM2.5)[2]	24 Hour (µg/m^3)	--	35	23.6	84.5	27	

Table 4.2-1. Ambient Air Quality Standards and Background Data

Pollutant	Averaging Time	Standards and Maximum Concentrations					Health Effects
		CAAQS	NAAQS	2019	2020	2021	
	Annual ($\mu g/m^3$)	12	12	7.00	9.46	7.30	
Carbon monoxide (CO)[3]	1 Hour (ppm)	20	35	3.465	1.33	0.75	Chest pain in heart patients, headaches, reduced mental alertness
	8 Hour (ppm)	9	9	1.2	1.0	0.4	
Nitrogen dioxide (NO_2)[1]	1 Hour (ppm)	0.18	0.10	0.025	0.023	0.017	Lung irritation and damage
	Annual (ppm)	0.030	0.053	0.025	0.023	0.017	
Sulfur dioxide (SO_2)[2]	1 Hour (ppm)	0.25	0.075	0.002	0.002	0.004	Increased lung disease, breathing problems for asthmatics
	24 Hour (ppm)	0.04	--	0.0007	0.0003	0.0006	

Source: CARB, 2016; USEPA, 2021.
Acronyms: ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; "--" = no standard or no data or insufficient annual coverage currently available.
[1] Data from Nipomo Regional Park monitoring station: Ozone, NO_2.
[2] Data from Nipomo Mesa Station: PM10, PM2.5, SO_2.
[3] Data from Santa Maria-South Broadway monitoring station: CO is not monitored in San Luis Obispo County. The nearest representative station that monitors ambient CO concentrations is the Santa Maria-South Broadway station in Santa Barbara County.

Table 4.2-2. Attainment Status for San Luis Obispo County

Pollutant	Attainment Status	
	State	Federal
Ozone, 1-hour and 8-hour averages	Non-Attainment	Non-Attainment (Eastern San Luis Obispo County) Attainment (Western San Luis Obispo County)
PM10, 24-hour and annual averages	Non-Attainment	Unclassified/Attainment
PM2.5	Attainment	Unclassified/Attainment
SO_2	Attainment	Unclassified
NO_2	Attainment	Unclassified
CO	Attainment	Unclassified
Lead	Attainment	Unclassified

Source: SLOCAPCD, 2019.
Acronyms: PM10 = course particulate matter, PM2.5 = fine particulate matter, SO_2 = sulfur dioxide, NO_2 = nitrogen dioxide, CO = carbon monoxide.

Table 4.2-3. Attainment Status for Santa Barbara County

	Attainment Status	
Pollutant	**State**	**Federal**
Ozone, 1-hour and 8-hour averages	Non-Attainment	Unclassified/Attainment
PM10, 24-hour and annual averages	Non-Attainment	Unclassified
PM2.5	Unclassified	Unclassified/Attainment
SO_2	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
CO	Attainment	Unclassified/Attainment
Lead	Attainment	Unclassified/Attainment

Source: SBCAPCD, 2021.
Acronyms: PM10 = course particulate matter, PM2.5 = fine particulate matter, SO_2 = sulfur dioxide, NO_2 = nitrogen dioxide, CO = carbon monoxide.

The general and adverse health effects caused by the regulated criteria pollutants appear in Table 4.2-1. Overall exposure to criteria air pollutant levels and levels of TACs contribute to the health burden of the regional population. While the NAAQS and CAAQS are health-protective standards set to minimize both human health effects and other environmental effects of air pollutants, these standards do not preclude individuals from experiencing health impacts from criteria pollutant exposure. The health impacts also contribute to the region's baseline rates of mortality and illnesses, and individual responses are highly variable depending on individual circumstances.

Toxic Air Contaminants

TACs are compounds known or suspected to cause adverse long-term (cancer and chronic) or short-term (acute) health effects. The California Health and Safety Code defines a TAC as an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a present or potential hazard to human health. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard many times greater than another TAC. There are almost 200 compounds designated in California regulations as TACs (Cal. Code. Regs., tit. 17, §§93000-93001). The list of TACs includes substances defined in federal statute as hazardous air pollutants pursuant to Section 112(b) of the federal Clean Air Act (42 U.S.C. §7412(b)). Some of the TACs are groups of compounds containing many individual substances (e.g., copper compounds, polycyclic aromatic compounds, radionuclides). TACs are emitted from mobile sources, including diesel engines; and industrial processes and stationary sources, such as dry cleaners, gasoline stations, paint and solvent operations, and stationary fossil fuel-burning combustion. Ambient TACs concentrations tend to be highest in urbanized and industrial areas near major TACs emissions sources or near major mobile TACs emissions sources, such as heavily traveled highways or major airports/seaports. Information on the regulation of emissions of radionuclides to the air is found in Section 4.10, *Hazardous and Radiological Materials*.

Valley Fever

Coccidioidomycosis, often referred to as San Joaquin Valley Fever or Valley Fever, is a fungal infection that varies with the season and most commonly affects people who live in hot dry areas with alkaline soil. This disease affects both humans and animals and is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis*. *Coccidioides immitis* spores are found in the top few inches of soil, and the existence of the fungus in most soil areas is temporary. The cocci fungus lives as a saprophyte (an organism, especially a fungus or bacterium, which grows on and derives its nourishment from dead or decaying organic matter) in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus "blooms" and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-disturbing activities and become airborne. Agricultural workers, construction workers, and other people who are outdoors and are exposed to wind, dust, and disturbed topsoil are at an elevated risk of contracting Valley Fever (California Department of Public Health [CDPH], 2019).

African Americans, Asians, women in the third trimester of pregnancy, and persons whose immunity is compromised are most likely to develop the most severe form of the disease (CDPH, 2019).

DCPP is located in the Central Coast region of California, which is an area of California where relatively high numbers of cases of Valley Fever are reported. Data from 2013 to 2019 show that the average San Luis Obispo County incidence rate of infection during these years was about 74 per 100,000. Santa Barbara County, where the SMVR sites are located, has an incident rate during these years of about 15 per 100,000 (CDPH, 2019).

Sensitive Receptors

The impact of air pollutant emissions on sensitive members of the general population (e.g., infants, children, pregnant women, elderly, and acutely and chronically ill) is a special concern. Per the CARB Air Quality and Land Use Handbook, sensitive receptor locations include schools, daycare centers, nursing homes, hospitals, parks and playgrounds, and residences. Recommendations from CARB advise land use agencies to provide a buffer distance to separate sensitive receptors by at least 500 feet from freeways or high-traffic roads and by at least 1,000 feet from railyards (CARB, 2005).

Residential areas are sensitive to air pollution because individuals normally spend much of their time at their dwellings. Industrial and commercial areas are considered the least sensitive to air pollution because exposure periods are relatively shorter or intermittent.

The DCPP site is generally surrounded by open space, PG&E owned or leased land, conservation space, federally owned parcels, and the Pacific Ocean (see Figure 2-7, Land Ownership). There are no residences or other occupied properties located within approximately 6.5 miles of the site. Recreational uses, including parks, playgrounds, and beaches, are located nearby, with the closest of these being Coon Creek Beach, approximately 3.7 miles from the site (Google Earth Pro, 2022b).

The off-site truck and rail waste haul routes are in closer proximity to sensitive receptors, such as schools and residences, in the more densely populated areas along the transportation routes and near the PBR site. The closest residences to the PBR rail site are approximately 148 feet (45

meters) from the site boundary, and the closest school is Judkins Middle School approximately 246 feet (75 meters) from the site boundary. The SMVR-SB site is surrounded by industrial, agricultural, and undeveloped lands with no sensitive receptors within 1,000 feet (Google Earth Pro, 2022a).

Existing Emissions Inventory

The predominant emission sources in San Luis Obispo County are mobile sources, including on-highway motor vehicles, railroad locomotives, and marine vessels. CARB compiles regionwide emission inventories with planning and forecast estimates for all groups of sources. The existing inventory shows that more than 75 percent of all nitrogen oxide (NO_X) emissions in the County are from ships and commercial vessels, and more than 10 percent of NO_X emissions in the County are from on-road motor vehicles. Dust from construction activity in the County accounts for more than 65 percent of all PM10 (CARB, 2017a). Relatively minor stationary sources are in use at DCPP for supporting routine operation of the power plant. The daily emissions from electric utilities, dust from construction activity, off-road equipment used during construction, ships, all on-road motor vehicles, and trains in San Luis Obispo County are shown for inventory year 2017 in Table 4.2-4.

Table 4.2-4. Daily Average Emissions for San Luis Obispo County (2017, tons per day)

Source Category -Total	NO_X	VOC	PM10	PM2.5	CO	SO_X
San Luis Obispo County	21.83	3.99	1.85	0.5	29.82	0.36
Source Category - Subtotals						
Electric Utilities	0.06	-	-	-	0.12	-
Dust from Construction Activities	-	-	1.24	0.12	-	-
Off-Road Equipment [1]	0.89	1.18	0.06	0.05	14.74	0
Ships and Commercial Boats [1]	16.52	0.95	0.15	0.14	1.17	0.33
On-Road Motor Vehicles [1]	4.16	1.82	0.4	0.19	13.76	0.03
Trains	0.2	0.01	-	-	0.03	-

Source: CARB, 2017a.
Acronyms: NO_X = nitrogen oxides, VOC = volatile organic compounds, PM10 = course particulate matter, PM2.5 = fine particulate matter, CO = carbon monoxide, SO_X = sulfur oxides.
[1] Includes all construction off-road equipment, all vessels, and all on-road motor vehicles.

Emission sources in Santa Barbara County are dominated by mobile sources, including on-high-way motor vehicles, railroad locomotives, and marine vessels. The existing inventory shows that nearly 85 percent of all NO_X emissions in the County are from ships and commercial boats, and more than 10 percent of NO_X emissions in the County are from on-road motor vehicles. Dust from construction activity in the County accounts for more than 35 percent of all PM10 (CARB, 2017b). The daily emissions from electric utilities, dust from construction activity, off-road equipment used during construction, ships, all on-road motor vehicles, and trains in Santa Barbara County are shown for inventory year 2017 in Table 4.2-5.

Table 4.2-5. Daily Average Emissions for Santa Barbara County (2017, tons per day)

Source Category - Total	NO_X	VOC	PM10	PM2.5	CO	SO_X
Santa Barbara County	61.65	8.25	6.58	1.37	51.57	1.07
Source Category - Subtotals						
Electric Utilities	0.04	0.02	-	-	0.15	-
Dust from Construction Activities	-	-	5.3	0.53	-	-
Off-Road Equipment [1]	1.29	1.61	0.8	0.07	20.67	-
Ships and Commercial Boats [1]	52.31	3.04	0.43	0.40	3.51	1.03
On-Road Motor Vehicles [1]	7.36	3.56	0.75	0.36	27.14	0.04
Trains	0.65	0.02	0.02	0.01	0.1	-

Source: CARB, 2017b.
Acronyms: NO_X= nitrogen oxides, VOC = volatile organic compounds, PM10 = course particulate matter, PM2.5 = fine particulate matter, CO = carbon monoxide, SO_X = sulfur oxides.
[1] Includes all construction off-road equipment, all vessels, and all on-road motor vehicles.

4.2.2 Regulatory Setting

Sources of air pollutant emissions in the region are regulated by the USEPA, CARB, the SLOCAPCD, and the SBCAPCD. The SLOCAPCD has published California Environmental Quality Act (CEQA) Guidelines and significance criteria for air quality impact analysis. The SBCAPCD has also published guidelines for air quality impact analysis. Each local air district adopts a set of rules and regulations pertaining to air quality.

Appendix C includes a summary of relevant federal and state laws, regulations, and policies that pertain to air quality. Local laws, regulations, and policies related to air quality are discussed below. For purposes of this impact analysis which spans multiple air districts, volatile organic compounds (VOC), reactive organic compounds (ROC), and reactive organic gases (ROG) are synonymous with each other and can be considered interchangeable.

San Luis Obispo County Air Pollution Control District

The SLOCAPCD is responsible for planning, implementing, and enforcing federal and state ambient air quality standards in San Luis Obispo County and for permitting and controlling stationary sources and TAC pollutants. The SLOCAPCD's Rules regulate sources of air pollution in San Luis Obispo County. The SLOCAPCD rules that may be applicable to the Proposed Project, specifically the DCPP and PBR sites, are identified below (SLOCAPCD, 2020).

- **SLOCAPCD Rule 401 – Visible Emissions**. This rule prohibits discharge of air contaminants or other material that are as dark or darker in shade as that designated No. 1 on the Ringelmann Chart or that obscure an observer's view.
- **SLOCAPCD Rule 402 – Nuisance.** This rule prohibits discharge of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any such persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property.

- **SLOCAPCD Rule 403 – Particulate Matter Emission Standards.** This rule prohibits discharge of particulate matter in excess of rates specified in Section 403. B.
- **SLOCAPCD Regulation II – Permits**. Rules outline general permits required to construct, operate, and sell or rent stationary sources of air contaminants.
- Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP) – SLOCAPCD implements the asbestos NESHAP regulation, which includes surveys, notification requirements, forms, and fees (SLOCAPCD, 2023).

County of San Luis Obispo

The County of San Luis Obispo has also adopted a General Plan that includes air quality related goals and policies, with particular interest around ozone concentrations (San Luis Obispo, 2010). The strategies aim to provide an overall reduction in vehicle miles traveled and support the County's efforts in attaining state and federal ambient air quality standards.

The policies for air quality that are relevant to the activities of the Proposed Project are as follows:

- **Policy AQ 3.7 Reduce vehicle idling.** Encourage the reduction of heavy-vehicle idling throughout the county, particularly near schools, hospitals, senior care facilities, and areas prone to concentrations of people, including residential areas.
- **Policy AQ 3.8 Reduce dust emissions.** Reduce PM10 and PM2.5 emissions from unpaved and paved County roads to the maximum extent feasible.

Santa Barbara County Air Pollution Control District

The SBCAPCD is responsible for planning, implementing, and enforcing federal and state ambient air quality standards in Santa Barbara County and for permitting and controlling stationary sources and TAC pollutants. The SBCAPCD's Rules regulate sources of air pollution in Santa Barbara County. The SBCAPCD rules that may be applicable to the Proposed Project, specifically the SMVR-SB site, are identified below. As described in Section 1.3.3.2, *Surface Transportation Board*, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction.

- **SBCAPCD Rule 302 – Visible Emissions.** This rule prohibits discharge of air contaminants or other material that are as dark or darker in shade as that designated No. 1 on the Ringelmann Chart or that obscure an observer's view.
- **SBCAPCD Rule 303 – Nuisance.** This rule prohibits discharge of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any such persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property.

4.2.3 Significance Criteria

Per State CEQA Guidelines Appendix G, the Proposed Project would be found to cause a significant environmental impact if it would:

- Conflict with or obstruct implementation of applicable air quality plans.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

San Luis Obispo County Air Pollution Control District

The SLOCAPCD recommends using the CEQA process to mitigate emissions from any short-term construction activities that exceed quantitative thresholds. Mitigation defined in the SLOCAPCD CEQA Air Quality Handbook (SLOCAPCD, 2012) should be applied if a project causes potentially significant impacts in order to avoid conflicting with implementation of the applicable air quality plan.

For ozone precursors (Nitrogen Oxides [NO_X] and Volatile Organic Compounds [VOC]) during construction:

- Daily: Construction projects exceeding 137 lb/day (NO_X and VOC combined) require Standard Mitigation Measures.
- Quarterly Tier 1: Construction projects exceeding 2.5 ton/quarter (NO_X and VOC combined) require Standard Mitigation Measures and Best Available Control Technology (BACT) for construction equipment. Off-site mitigation may be required if feasible mitigation measures are not implemented, or if no mitigation measures are feasible for a project.
- Quarterly Tier 2: Construction projects exceeding 6.3 ton/quarter (NO_X and VOC combined), require Standard Mitigation Measures, BACT, implementation of a Construction Activity Management Plan (CAMP), and off-site mitigation.

For diesel particulate matter (DPM) during construction:

- Quarterly Tier 1: Construction projects exceeding 0.13 ton/quarter (DPM) require Standard Mitigation Measures, BACT for construction equipment.
- Quarterly Tier 2: Construction projects exceeding 0.32 ton/quarter (DPM) require Standard Mitigation Measures, BACT, implementation of a CAMP, and off-site mitigation.

For fugitive particulate matter during construction, dust emissions exceeding 2.5 ton/quarter require Fugitive PM10 Mitigation Measures and may require the implementation of a CAMP.

The SLOCAPCD recommends the following thresholds of significance for long-term operational emissions (SLOCAPCD, 2012).

- For ozone precursors (NO_X and VOC combined): 25 lb/day or 25 ton/year.
- For diesel particulate matter (DPM): 1.25 lb/day.

- For fugitive particulate matter (PM10) dust: 25 lb/day or 25 ton/year.
- For CO: 550 lb/day.

For activities at the DCPP and PBR sites, the operational threshold for DPM of 1.25 lb/day will be used for the localized single-site emissions. Since DPM is a localized concern, this operational threshold will be used for these localized emissions. Projects that emit more than 1.25 lb/day of DPM should implement on-site diesel-exhaust control measures, and if sensitive receptors are within 1,000 feet, the SLOCAPCD may also require a HRA (SLOCAPCD, 2012).

Santa Barbara County Air Pollution Control District

Currently, neither the County of Santa Barbara nor the SBCAPCD have daily or quarterly quantitative emission thresholds established for short-term construction emissions. Emissions from construction activities are normally short-term and subject to standardized emission control strategies. For the Proposed Project, however, SBCAPCD staff recommended during early agency consultation that the proposed decommissioning activities be compared to thresholds for longer-term operation due to the duration of decommissioning activities occurring over many years. Quantitative thresholds for operation established by the County of Santa Barbara are more stringent than those recommended by the SBCAPCD.

Although quantitative thresholds of significance are not currently in place for short-term or construction emissions, the SBCAPCD recommends that construction projects that would emit more than 25 tons per year of any pollutant to obtain emission offsets under SBCAPCD Rule 804 (SBCAPCD, 2017). APCD Rule 202(D)(16), related to permits and exemptions, requires that:

> *Notwithstanding any exemption in these rules and regulations, if the combined emissions from all construction equipment used to construct a stationary source which requires an Authority to Construct have a projected actual in excess of 25 tons of any pollutant, except carbon monoxide, in a 12 month period, the owner of the stationary source shall provide offsets as required under the provisions of Rule 804, Emission Offsets, and shall demonstrate that no ambient air quality standard would be violated.*

The SBCAPCD Board adopted significance thresholds for the operation of a project as not having a significant impact on air quality if the project will:

- Emit (from all project sources, both stationary and mobile) less than the daily trigger for offsets or Air Quality Impact Analysis set in the APCD New Source Review Rule, for any pollutant (i.e., 240 lb/day for Reactive Organic Compounds (ROC) or NO_X; and 80 lb/day for PM10. There is no daily operational threshold for CO; it is an attainment pollutant).
- Emit less than 25 lb/day NO_X or ROC from motor vehicle trips only.
- Not cause or contribute to a violation of any CAAQS or NAAQS (except ozone).
- Not exceed the APCD health risk public notification thresholds adopted by the APCD Board (10 excess cancer cases in a million) for cancer risk and not exceed a Hazard Index of 1.0 for non-cancer risk.
- Be consistent with the latest adopted federal and state air quality plans for Santa Barbara County (SBCAPCD, 2017).

County of Santa Barbara

The County of Santa Barbara recommends finding that a project will not have a significant air quality effect on the environment, if operation of the project will:

- Emit (from all project sources, mobile and stationary) less than the daily triggers of: 55 lb/day for NO_X or ROC, and 80 lb/day for PM10 (Santa Barbara, 2021). Because PM10 includes PM2.5, emissions of PM2.5 are presumed to be subject to the PM10 threshold;
- Emit less than 25 lb/day NO_X or ROC from motor vehicle trips only;
- Not cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone);
- Not allow land uses that create objectionable odors or does not expose sensitive receptors to objectionable odors;
- Not exceed the APCD health risk public notification thresholds adopted by the APCD Board for air toxics; and
- Be consistent with the adopted federal and state Air Quality Plans.

4.2.4 Environmental Impact Analysis and Mitigation

Impact AQ-1: Conflict with or obstruct implementation of an applicable air quality plan (Class III: Less than Significant).

This discussion addresses whether the Proposed Project's emissions sources, which are primarily off-road equipment, on-road vehicles, rail locomotives, and marine vessels would conform with the air quality management plans adopted by SLOCAPCD or other local air districts. All decommissioning activities would comply with the applicable rules, regulations, and programs.

Phase 1

DCPP Project Site

For the area including the DCPP site and its surroundings, the SLOCAPCD and CARB ensure implementation of California's air quality management plans, collectively known as the State Implementation Plan. State-level air quality planning strategies to attain CAAQS are implemented through rules, regulations, and programs adopted by SLOCAPCD and CARB to control ozone precursors, PM10, and PM2.5.

All decommissioning activities would comply with all applicable air pollution control rules and regulations, including SLOCAPCD's Rule 401 and 402, which prevent nuisance and regulate fugitive dust emissions. The Proposed Project activities would also conform to the federal and state Clean Air Act requirements by complying with the rules and regulations contained in the State Implementation Plan, which carries forward the necessary programs from the local air quality plan.

A project could be inconsistent with the applicable air quality management plan or attainment plan if it causes population and/or employment growth or growth in vehicle-miles traveled in excess of the growth forecasts included in the attainment plan.

The Proposed Project as a decommissioning activity would not contribute to population growth, or an increase in employees at the DCPP site. The overall effects of the Proposed Project would be to deploy a temporary workforce, involving short-term employment. For all locations of proposed activities (including the railyards), the total full-time employees used for Phase 1 activities of decommissioning would be much lower than current full-time employees commuting to and from the DCPP. Associated vehicle trips and miles traveled by the workforce would decrease overall from the baseline of existing conditions. Currently DCPP employs approximately 1,157, but generally employs up to 1,400 workers (see Section 2.2.3.1), and during decommissioning it's estimated there would be around 870 workers daily in Phase 1, and around 160 workers daily by Phase 2. Accordingly, the Phase 1 activities of decommissioning would not conflict with or obstruct implementation of the applicable air quality plan, and this impact would not be significant (Class III).

Railyards

The ability of Phase 1 activities at the railyards to conform with applicable air quality management plans is included in the overall discussion for Phase 1, above.

Phase 2

Activities in Phase 2 include contaminant remediation, demolition of remaining utilities and structures, soil grading and landscaping, long-term stormwater management, and closure of the Intake Structure. Since Discharge Structure removal and restoration activities span both Phases 1 and 2, the emissions were considered in Phase 1 to provide a conservative estimate. Similar to Phase 1 activities, Phase 2 activities would comply with all applicable air pollution control rules and regulations and would involve a much lower level of employment and a decrease in overall vehicle trips and miles traveled by the workforce from the baseline of existing conditions. The Phase 2 activities of decommissioning and long-term operations would not conflict with or obstruct implementation of the applicable air quality plan, and this impact would not be significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. PG&E would continue to comply with all applicable air pollution control rules and regulations and would involve a much lower level of employment and a decrease in overall vehicle trips and miles traveled by the workforce from the baseline of existing conditions. Long-term operations of the new facilities would not conflict with or obstruct implementation of the applicable air quality plan. This impact would not be significant (Class III).

Future Actions. Marina improvement and operations include parking lot construction and a boat hoist to allow for recreational activities at the Marina. The recreational use of the site would involve lower levels of employment, and total trips to and from the site from baseline conditions.

The Marina activities would not conflict with or obstruct implementation of the applicable air quality plan. This impact would not be significant (Class III).

Mitigation Measures for Impact AQ-1. No mitigation measures are required.

Impact AQ-2: Result in a cumulatively considerable net increase of any criteria air pollutant for which the Project region is in nonattainment (Class II: Less than Significant with Mitigation).

This section quantifies the criteria air pollutant emissions for each phase and site of the Proposed Project to compare with the significance thresholds for protecting regional air quality planning efforts. The Proposed Project would create criteria air pollutant emissions during decommissioning and dismantlement activities. The sources directly related to the Proposed Project include off-road equipment, on-road vehicles, rail locomotives, and marine vessels used in the process of dismantling, decontaminating, and removing the DCPP facility components after final shutdown.

Emissions estimates are based on use of regulatory agency-approved emissions factors and calculation methods. PG&E used the most up-to-date available emissions estimating methodologies at the time of PG&E's primary submittals to the County (during 2021). The emissions factor sources used include:

- CalEEMod version 2016.3.2 – California's emission estimating software for based on emissions factors from CARB's OFFROAD2011 and EMFAC2014 databases (PG&E, 2021c).
- EMFAC2017 –CARB's USEPA-approved database of on-road vehicle emissions and on-highway transportation activity (PG&E, 2021c).
- USEPA Compilation of Air Emissions Factors (AP-42) – Provides methods for fugitive dust emissions factor determinations for various construction/ demolition and mobile source dust emissions sources, including material loading and handling, grading (PG&E, 2022a).
- 2019 Port of Long Beach Air Emissions Inventory – Marine vessel emissions sources (PG&E, 2022a).
- USEPA 2009 Emissions Factors for Locomotives (EPA-420-F-09-025) – Rail hauling emissions (PG&E, 2021c).
- USEPA 2018 Emission Factors for Greenhouse Gas Inventories (PG&E, 2021c).

Phase 1

DCPP Project Site

The DCPP Project site is in the western and coastal portion of San Luis Obispo County, which is designated as non-attainment for state-level ozone and PM10 standards. Emissions during Phase 1 would include criteria air pollutants, including ozone and PM10 precursor pollutants, that could exceed quantitative thresholds of significance and would represent a cumulatively considerable net increase of a nonattainment pollutant. Emissions exceeding the quantitative thresholds could contribute to the significant cumulative impact of existing or projected violations of the ambient air quality standards.

Decommissioning activities would generate emissions at the DCPP site and off site along the roadways traveled by Project-related traffic. Project emissions would be caused by exhaust from vehicles and equipment (this includes ozone precursors VOC or ROG and NO_X, CO, and particulate matter [PM10 and PM2.5]) and fugitive dust/particulate matter from ground-disturbing activities and travel on unpaved surfaces and on paved roads. Waste, rock, and gravel transportation via rail and barge would also cause criteria air pollutant emissions including VOCs, NO_X, CO, PM10, and PM2.5 in San Luis Obispo County and in the jurisdictions of other air districts far removed from the DCPP site.

To minimize fugitive dust from unpaved surfaces and emissions from other ground-disturbing activities, all decommissioning activities would be required to comply with local air district rules regarding dust control (including SLOCAPCD Rule 401 and 402). Diesel and gasoline-powered equipment would include either portable or mobile sources (off-road equipment). These sources are subject to the Statewide Portable Equipment Registration Program and emissions performance standards for in-use off-road equipment fleets (see EIR Appendix C). On-road motor vehicle emissions would occur primarily off-site with sources including heavy-duty trucks to deliver equipment, water, and other materials, heavy-duty trucks to haul away demolished material and soil, and light-duty vehicles carrying crews and medium-duty deliveries. These on-road motor vehicle emissions would not be localized at the DCPP site but would contribute to a net increase of emissions within the South Central Coast Air Basin.

Decommissioning activities would occur over two main phases. Phase 1 would occur following the shutdown of DCPP Unit 1 in November 2024 and last approximately eight years and may be phased. The targeted schedule for Phase 1 construction spans 2024 to 2031. Phase 2 is targeted to commence after 2031.

Table 4.2-6 summarizes the maximum daily emissions of anticipated decommissioning activity at the DCPP site including DCPP harbor tugboats, ocean tugboats traveling to the offshore boundary of San Luis Obispo County including tugboats for gravel from the Port of Long Beach and quarry rocks from Santa Catalina Island, and truck and rail waste transportation in the County. Table 4.2-7 summarizes the quarterly rates of emissions.

Table 4.2-6. Phase 1, DCPP Site, Maximum Daily Unmitigated Emissions (pounds per day)

Phase	NO_X + ROG	PM10	PM2.5	CO	SO_X
Phase 1, DCPP Site	370	28.50	13.61	463.37	82.21
SLOCAPCD Threshold	137	-	-	-	-
Threshold Exceeded? (Yes/No)	Yes	N/A	N/A	N/A	N/A

Source: EIR Appendix D, Phase 1 AQ/GHG Summary, Table 1.1 and Table 1.2.
Acronyms: NO_X= nitrogen oxides, ROG = reactive organic gasses, PM10 = course particulate matter, PM2.5 = fine particulate matter, CO = carbon monoxide, SO_X= sulfur oxides.

Table 4.2-7. Phase 1, DCPP Site, Maximum Quarterly Unmitigated Emissions (tons per quarter)

Phase	NO_X + ROG	Exhaust PM10 or DPM	Fugitive PM10
Phase 1, DCPP Site	11.9	0.09	0.52
SLOCAPCD Threshold	2.5	0.13	2.5
Threshold Exceeded? (Yes/No)	Yes	No	No

Source: EIR Appendix D, Phase 1 AQ/GHG Summary, Table1.1, Table 1.2.
Acronyms: NO_X= nitrogen oxides, ROG = reactive organic gasses, PM10 = course particulate matter, CO = carbon monoxide, SO_X = sulfur oxides.

Emissions quantified in Table 4.2-6 and Table 4.2-7 reflect the Proposed Project, which includes commitments to minimize fugitive dust, use of Tier 4 equipment, and compliance with SLOCAPCD requirements (see Table 2-12). For emissions exceeding the SLOCAPCD thresholds, mitigation measures must be identified to minimize or avoid adverse impacts of the emissions, as described under *Overall Project Air Pollutant Emissions*. Phase 1 emissions of ozone precursors (NO_X and VOC) would exceed the SLOCAPCD daily and quarterly thresholds. Phase 1 emissions of PM10 would be below the thresholds. The Proposed Project emissions increases of ozone precursors during Phase 1 would result in a potentially significant impact on SLOCAPCD regional emissions, and the recommended mitigation is described below.

Railyards

Pismo Beach Railyard. PBR is a back-up or contingency site that could potentially be used for the transfer of only non-radioactive and non-hazardous decommissioning waste from trucks to rail cars (see Table 2-9). Emissions are shown for Phase 1 activities and included in the discussion of DCPP site impacts, above. Since Phase 2 includes final site restoration for DCPP, and waste would not be transported by rail in Phase 2, the PBR would not be used during Phase 2. Table 4.2-8 and Table 4.2-9 show the portion of Proposed Project activities at PBR would not cause a significant impact on SLOCAPCD regional emissions (Class III).

Table 4.2-8. PBR Site, Maximum Daily Unmitigated Emissions (pounds per day)

Phase	NO_X + ROG	PM10	PM2.5	CO	SO_X
Phase 1, PBR Site	29.1	0.9	0.6	65.2	0.1
SLOCAPCD Threshold	137	-	-	-	-
Threshold Exceeded? (Yes/No)	No	N/A	N/A	N/A	N/A

Source: PG&E, 2021c – Table 3.5.
Acronyms: NO_X= nitrogen oxides, ROG = reactive organic gasses, PM10 = course particulate matter, PM2.5 = fine particulate matter, CO = carbon monoxide, SO_X = sulfur oxides.

Table 4.2-9. PBR Site, Maximum Quarterly Unmitigated Emissions (tons per quarter)

Phase	NO_x + ROG	Exhaust PM10 or DPM	Fugitive PM10
Phase 1, PBR Site	0.9	0.02	0.01
SLOCAPCD Threshold	2.5	0.13	2.5
Threshold Exceeded? (Yes/No)	No	No	No

Source: PG&E, 2021c – Table 3.6.
Acronyms: NO_X = nitrogen oxides, ROG = reactive organic gasses, PM10 = course particulate matter, DPM = Diesel Particulate Matter.

SMVR-SB. Table 4.2-10 shows the criteria air pollutant emissions for Proposed Project activities at SMVR-SB. Phase 1 emissions at the SMVR-SB site would not exceed SBCAPCD thresholds and would not cause a significant impact on regional emissions in Santa Barbara County (Class III).

Table 4.2-10. SMVR-SB Site, Maximum Daily Unmitigated Emissions (pounds per day)

Phase	NO_X	VOC	PM10	PM2.5	CO	SO_X
Phase 1, SMVR-SB Site	6.3	0.8	0.2	0.2	24.3	0.1
SBCAPCD Threshold	25	25	80	80	-	-
Threshold Exceeded? (Yes/No)	No	No	No	No	N/A	N/A

Source: EIR Appendix D, Phase 1 AQ/GHG Summary, Table 4.2.
Acronyms: NO_X = nitrogen oxides, VOC = volatile organic compounds, PM10 = course particulate matter, PM2.5 = fine particulate matter, CO = carbon monoxide, SO_X = sulfur oxides.

Waste and Fill Transport Emissions in Other Air Districts

Emissions due to waste transportation from DCPP would occur outside of SLOCAPCD and SBCAPCD. The truck and rail transportation in Phase 1 would require use of long-haul trucks originating from DCPP then traveling onto regional highways and railroad locomotives using the PBR or SMVR railyards as starting points for travel to disposal sites.

Waste transport emissions in other air districts would be minor when considered in the context of the baseline transportation-related emissions that occur on California's road and rail networks. For consistency with impact classifications in the SLOCAPCD and SBCAPCD jurisdictions, the threshold of 25 lbs/day for ozone precursors (NO_X and VOC combined) from motor vehicle trips, which equates to an annual rate of 5 tons per year, would be relevant (SBAPCD, 2017; SLOCAPCD, 2012).

The peak annual rates of emissions from waste transport by truck and rail through each of the other air districts that are far removed from the DCPP site are summarized below in Table 4.2-11. Based on the limited annual quantities of truck and rail emissions, the Proposed Project would be unlikely to adversely impact regional emissions in other air districts that are far removed from the DCPP site (Class III).

Table 4.2-11. Worst Case Truck and Rail Unmitigated Emissions in Other Air Districts (tons per year)

Air District	NO_X + VOC	PM10	PM2.5	CO	SO_X
Ventura County Air Pollution Control District (VCAPCD)	0.035	0.001	0.001	0.012	< 0.001
South Coast Air Quality Management District (SCAQMD)	0.146	0.005	0.003	0.034	0.001
San Joaquin Valley Air Pollution Control District (SJVAPCD)	0.055	0.003	0.001	0.008	< 0.001
Mojave Desert Air Quality Management District (MDAQMD)	0.197	0.005	0.004	0.058	0.001
Motor Vehicle Trips Emissions Threshold	5	---	---	---	---
Threshold Exceeded? (Yes/No)	No	N/A	N/A	N/A	N/A

Source: EIR Appendix D, Phase 1 AQ/GHG Summary, Table 1.5.
Acronyms: NO_X = nitrogen oxides, VOC = volatile organic compounds, PM10 = course particulate matter, PM2.5 = fine particulate matter, CO = carbon monoxide, SO_X = sulfur oxides.

The peak annual rates of emissions from the transport of waste, gravel, and quarry rock by harbor craft and barges piloted by ocean tugboats beyond the jurisdiction of SLOCAPCD and through federal waters offshore to Oregon and to the Port of Long Beach and Santa Catalina Island are summarized for informational purposes in Table 4.2-12. The emissions caused by use of ocean tugboats beyond the offshore boundary of San Luis Obispo County and along the total length of the route to the Oregon disposal site or the fill sites in Long Beach and Santa Catalina Island would be outside of the Project area and are unlikely to substantially impact air quality conditions offshore.

Table 4.2-12. Worst Case Harbor Craft and Barge Unmitigated Emissions Outside of the Project Area (tons per year)

	NO_X	VOC	PM10	PM2.5	CO	SO_X
Offshore Waste Transport	11.01	1.03	0.39	0.36	6.51	0.01

Source: EIR Appendix D, Phase 1 AQ/GHG Summary, Table 6.1 (Barge for Remainder of Route SoCal + OR).
Acronyms: NO_X = nitrogen oxides, VOC = volatile organic compounds, PM10 = course particulate matter, PM2.5 = fine particulate matter, CO = carbon monoxide, SO_X = sulfur oxides.
Note: Barge emissions represent emissions occurring through federal waters off the shore of California and Oregon. Barge emissions within the boundaries of SLO County are included in Phase 1 total emissions.

Phase 2

Table 4.2-13 summarizes the maximum daily emissions during Phase 2, and Table 4.2-14 summarizes the quarterly emissions during Phase 2. Emissions during Phase 2 would be lower than Phase 1 due to much less intensive activity and fewer transportation trips. All decommissioning emissions during Phase 2 would be below the applicable SLOCAPCD thresholds and less than significant (Class III). No Phase 2 activities are anticipated to occur at the railyards.

Table 4.2-13. Phase 2, DCPP Site, Maximum Daily Unmitigated Emissions (pounds per day)

Phase	NO_X + ROG	PM10	PM2.5	CO	SO_X
Phase 2, DCPP Site	28.42	32.94	8.38	85.91	0.25
SLOCAPCD Threshold	137	-	-	-	-
Threshold Exceeded? (Yes/No)	No	N/A	N/A	N/A	N/A

Source: EIR Appendix D, Phase 2 AQ/GHG Summary, Emission Calculations for Phase 2 based on PG&E, 2021d.
Acronyms: NO_X = nitrogen oxides, ROG = reactive organic gasses, PM10 = course particulate matter, PM2.5 = fine particulate matter, CO = carbon monoxide, SO_X = sulfur oxides.
All barge trips were included in Phase 1 calculations to provide a conservative estimate, therefore barge trips are not included in Phase 2 reported emissions.

Table 4.2-14. Phase 2, DCPP Site, Maximum Quarterly Unmitigated Emissions (tons per quarter)

Phase	NO_X + VOC	Exhaust PM10 or DPM	Fugitive PM10
Phase 2, DCPP Site	0.78	0.02	0.54
SLOCAPCD Threshold	2.5	0.13	2.5
Threshold Exceeded? (Yes/No)	No	No	No

Source: EIR Appendix D, Phase 2 AQ/GHG Summary, Emission Calculations for Phase 2 based on PG&E 2021d.
Acronyms: NO_X = nitrogen oxides, VOC = volatile organic compounds, PM10 = course particulate matter, DPM = Diesel Particulate Matter.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, operational activities at the DCPP site would include long-term management of the GTCC Waste Storage facility and operation of the Security Building, indoor Firing Range, and Storage Buildings. Emissions estimates appear in EIR Appendix D, Phase 2 AQ/GHG Summary. These operational activities would not generate emissions at levels that could exceed the applicable SLOCAPCD thresholds, and this impact would be less than significant (Class III).

Future Actions. Marina improvement and operations would result in emissions that have already been accounted for in the Phase 2 to present a worst-case scenario (see Table 4.2-14). As noted above, impacts would be less than significant (Class III).

Overall Project Air Pollutant Emissions and Mitigation

Overall effects of the Proposed Project include emissions from Phase 1 activities at the DCPP site that would result in criteria air pollutant emissions at rates exceeding the SLOCAPCD thresholds of significance for ozone precursors (NO_X and VOC). Phase 2 activities would not exceed the SLOCAPCD thresholds of significance.

This analysis identifies mitigation measures to reduce the impact of ozone precursor emissions during Phase 1. MM AQ-1 requires PG&E to implement a Decommissioning Activity Management Plan (DAMP). MM AQ-2 requires PG&E to achieve off-site emissions reductions to offset the effects of any Project-related ozone precursor emissions over 2.5 tons/quarter (NO_X and VOC combined) prior to initiating Phase 1. The quantity of off-site emission reductions necessary to mitigate Phase 1 would be equal to the amount of Project NO_X and VOC combined emissions

(estimated to range up to 11.9 tons/quarter (Table 4.2-7) minus the threshold level of 2.5 tons/quarter, or up to 9.4 tons/quarter of reductions, as established by the SLOCAPCD recommendations (SLOCAPCD, 2012).

Potential off-site emissions reductions strategies sponsored by PG&E through MM AQ-2 could include but would not be limited to the following (SLOCAPCD, 2012):

- Fund a program to buy and scrap older heavy-duty diesel vehicles or equipment,
- Replace/repower transit buses,
- Replace/repower heavy-duty diesel school vehicles (i.e., bus, passenger, or maintenance vehicles),
- Retrofit or repower heavy-duty construction equipment, or on-road vehicles,
- Repower or contribute to funding clean diesel locomotive main or auxiliary engines,
- Purchase VDECs for local school buses, transit buses or construction fleets,
- Install or contribute to funding alternative fueling infrastructure (i.e., fueling stations for clean natural gas, liquified petroleum gas, conductive and inductive electric vehicle charging, etc.),
- Fund expansion of existing transit services, and
- Replace/repower marine diesel engines.

The mitigation measures would facilitate reducing emissions of ozone precursors (NO_X and VOC combined). However, the overall effectiveness of the mitigation measures would be uncertain. For example, PG&E may encounter difficulty in contracting a complete fleet of off-road equipment including specialized machines that achieves the Tier 4 emission standards for off-road compression-ignition engines, as specified in the California Code of Regulations, Title 13, Section 2423(b)(1). Additionally, an agreed-upon program to achieve off-site emissions reductions may not be able to achieve cost-effective reductions at a rate and schedule that fully offsets the project impact.

The emissions rates forecasted for the Proposed Project are based on PG&E's best available Project design information at the time of environmental review. Future design refinements, refinements in emissions estimating methodologies, and the ultimate equipment selection would influence the actual emissions rates. To ensure that actual emissions are reported and mitigated during the life of decommissioning activities, this analysis recommends Mitigation Measures (MMs) AQ-1 and AQ-2, which include a program of continuing agency oversight. The mitigation measure for off-site emission reduction projects (MM AQ-2) includes provisions to ensure that Proposed Project emissions would not occur at rates exceeding the applicable thresholds. This impact would be less than significant with mitigation for Phase 1 (Class II).

Mitigation Measures for Impact AQ-2.

AQ-1 **Implement a Decommissioning Activity Management Plan (DAMP).** Upon the filing of initial building, grading, or construction permit applications related to decommissioning for each phase of decommissioning activities, the Applicant or its designee shall develop a DAMP and submit it to the County Department of Planning and Building and San Luis Obispo County Air Pollution Control District (APCD) for review and approval. During each phase of decommissioning activities, the Applicant or its designee shall implement the DAMP by reporting to the County and APCD quarterly

with a summary of Project emissions and actions to reduce any emissions exceeding quarterly thresholds. The DAMP shall include, but not be limited to, the following elements for the approved Project: a Dust Control Management Plan, a tabulation of on- and off-road equipment in use including off-road equipment diesel engine Tier levels, a schedule of on-highway truck trips demonstrating efforts to promote travel during non-peak hours, limits to the length of the construction workday if feasible to achieve lower daily emissions, and phasing of construction activities to achieve lower daily emissions. If occurring concurrently, the Orano System ISFSI modifications project shall be considered in the DAMP's construction phasing both for on- and off-road equipment usage and on-highway truck trips to limit the maximum daily emissions occurring at the DCPP site between both projects. The DAMP shall confirm that off-road diesel equipment engines meet or exceed Tier 4 exhaust emissions standards, unless the Applicant or its designee demonstrates that Tier 4 equipment is unavailable. If Tier 4 equipment is unavailable, engines using retrofit controls verified by CARB or USEPA may be used provided that the engine achieve or exceed emission reductions equivalent to that of a Tier 4 engine. Equipment shall have a sticker available for inspection indicating the Tier of engine.

AQ-2 **Provide Funding for Off-site Mitigation of Equipment Emissions.** Upon the filing of any construction permit applications related to decommissioning, for each phase of decommissioning activities, the Applicant or its designee shall develop and implement or fund a program for off-site mitigation of decommissioning equipment emissions. The program for off-site mitigation shall provide ozone precursor (NO_X and VOC combined) and Diesel Particulate Matter (DPM) reductions equal to the quantity of Project emissions that exceed the APCD threshold (or a different quantity based on the APCD-approved decommissioning activity management plan). The program shall achieve emissions reductions from existing sources in the western portion of San Luis Obispo County, including surrounding communities. Decommissioning Project emissions do not include emissions from the Orano System ISFSI modifications project.

The APCD has a grant program with three funding categories. If this option is selected, the Applicant or its designee shall pay the APCD at the current rate at the time of payment. This fee will be a monetary value per ton of ozone precursor and DPM emitted over the threshold, plus a 15 percent administration fee for the ACPD to secure and administer SLO County projects that secure reductions. After the Applicant submits this initial payment to APCD, the Applicant shall report to the County and APCD quarterly whether Project emissions exceed the quantity of emissions mitigated through the pre-payment. If the initial pre-payment ends up being insufficient after the first year, the Applicant shall make subsequent payments to ensure timely mitigation. The three funding categories include:

1. Marine vessel propulsion and auxiliary engine repowers that reduce emissions in surplus to the Commercial Harbor Craft Regulations (13 CCR 2299.5 and 17 CCR 93118.5);

2. Replacement and/or repower of agricultural tractors and off-road construction equipment in surplus to the CARB In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR 2449, et seq.); and

3. Electrification or repower of agricultural irrigation engines.

Prior to initiating any site disturbance, the Applicant or its designee shall demonstrate to the County Department of Planning and Building and APCD that the emission reduction project(s) are identified and funded prior to commencing decommissioning activities.

Impact AQ-3: Expose sensitive receptors to substantial pollutant concentrations (Class II: Less than Significant with Mitigation).

This section addresses whether the Proposed Project could adversely change ambient air quality concentrations of criteria air pollutants or TACs in a way that would substantially impact public health effects experienced by sensitive receptors.

Phase 1

DCPP Project Site

Overall decommissioning activities would result in locally increased concentrations of construction-related emissions, including criteria air pollutants, DPM, and other TACs, which would cause increased health risk and hazards near each site of emissions. This discussion separately addresses criteria air pollutants, TACs, Valley Fever, and naturally occurring asbestos.

Criteria Air Pollutants

The mass of increased criteria air pollutant emissions and emissions of ozone precursor (NO_X and VOC combined) pollutants during the Proposed Project would lead to incremental changes in downwind concentrations of the criteria air pollutants directly and through secondary pollutant formation.[13] Emissions rates that are less than the mass-based significance thresholds would not be likely to cause localized exposure of sensitive receptors to ground-level concentrations of the criteria air pollutants in excess of the AAQS, which are set at health-protective levels.

Phase 1 emission sources would be spread across the various work areas within the DCPP site and transportation corridors. Implementing the Proposed Project as described would reduce the mass of criteria air pollutant emissions and minimize the potential adverse health effects of criteria pollutant concentrations that could be experienced by sensitive receptors. The analysis of criteria pollutant emissions under Impact AQ-2 finds that Phase 1 emissions of ozone precursors would exceed the SLOCAPCD thresholds. Implementing the recommended mitigation measures for Impact AQ-2 would require PG&E to implement a decommissioning activity management plan (MM AQ-1) and to achieve off-site emissions reductions (MM AQ-2) to offset the effects of ozone precursor emissions. With mitigation measures identified for Impact AQ-2, the

[13] Secondary pollutants are not those emitted at the site, but rather are created by complex reactions over time and distance, like ozone and secondary PM2.5.

Phase 1 emissions of ozone precursors would be offset to ensure that they do not exceed the emissions thresholds, and sensitive receptors in the region would not be exposed to substantial pollutant concentrations of ozone. Health impacts from ground level ozone put people with asthma, children, older adults, and people who are active outdoors most at risk. These risks include coughing, sore throat, difficulty breathing deeply, inflammation of the airways, increasing asthma attacks, increased susceptibility to lung infection, and aggravation of lung diseases including asthma, chronic bronchitis, and emphysema (USEPA, 2022). The potential exposure of sensitive receptors to ozone concentrations and associated health impacts would be mitigated to less than significant for Phase 1 (Class II).

Toxic Air Contaminants

The primary health risks to nearby sensitive receptors would be driven by carcinogenic DPM emissions from the equipment and vehicles used during decommissioning. Noncancer effects of DPM are normally less of a concern than cancer risks. The duration of decommissioning activities at any single site represents a potential to deliver a dose over a relatively short time period, which in this case spans eight years (2024-2031). The recommended exposure duration for estimating cancer risk to residents or off-site workers would be 30 years or 25 years, respectively. Cancer risks at nearby schools are evaluated based on a 9-year exposure, as specified by the Office of Environmental Health Hazard Assessment (OEHHA), Guidance Manual for the Preparation of Health Risk Assessments (OEHHA, 2015).

Uncertainty in the quantification of cancer risk occurs because of the varying exposure times of residents, workers, and people at schools. Additionally, risk varies with the changing levels of concentrations of pollutants brought about during different decommissioning activities that occur only during a fraction of an individual exposure period. Emissions and the potential for exposure would generally cease at the end of decommissioning. Risk quantification is also strongly influenced by the distances between sources and receptors. Concentrations of mobile source DPM emissions are greatly reduced by distance, such that a separation of 1,000 feet normally allows sensitive land uses to avoid high levels of DPM concentrations (CARB, 2005).

The majority of decommissioning activities and most of the Project-related emissions would occur at the DCPP site. For Phase 1 activities, emissions at the DCPP site would exceed the SLOCAPCD threshold of 1.25 lb/day of DPM (PG&E, 2022a – Table 1.2). PG&E and its consultants prepared a HRA to determine the adverse health effects of the overall DPM emissions within San Luis Obispo County and northern Santa Barbara County. An initial HRA supported the application (PG&E, 2021b; PG&E, 2021c); PG&E updated the HRA to focus on the SMVR sites after consultation with SBCAPCD staff (PG&E, 2022b).

The scope of PG&E's HRA is large-scale in that it considers grids of receptors throughout western San Luis Obispo County and northern Santa Barbara County and encompasses the following sources:

- DCPP on-site demolition,
- Barge maneuvering and travel,

- Trucks traveling out of state including routes to PBR as a contingency (PG&E, 2021b) and to each of the two SMVR sites (PG&E, 2022b),
- SMVR on-site construction and railcar operation, and
- Rail transport between each of the two SMVR sites and the UPRR main line connection.

By modeling the impacts of DPM emissions from onsite as well as off-site sources, including on-road vehicles and vehicles on the regional roadways, the HRA provides quantification of cancer risks and chronic health hazards for receptors throughout the region, including the most-impacted sensitive receptors nearest to the different locations of activities (PG&E, 2022b). The HRA presents maps of residential cancer risk for all modeled receptors (PG&E, 2022b), and the Judkins Middle School, that is across the street from PBR, was analyzed as the site of worst-case potential school exposure (PG&E, 2021c).

There would be little potential to expose sensitive receptors to substantial pollutant concentrations of DPM emitted from activities at the DCPP site due to the large distances separating the on-site activities from potential sensitive receptors (refer to Sensitive Receptors discussion in Section 4.2.1 for distances). For all coastal locations, onshore winds cause mixing and dispersion allowing dissipation of localized concentrations.

Table 4.2-15 summarizes the cancer risk results for activities at the DCPP site, including transportation and improvements at the PBR and SMVR-SB (Betteravia Industrial Park) sites.

Table 4.2-15. DCPP Site and SMVR-SB Site (Betteravia Industrial Park) Cancer Risk Results

Location	UTM, Easting (m)	UTM, Northing (m)	Cancer Risk (Chances in One Million)
Maximum Exposed Individual at a Residential (MEIR) location	704592.0	3894935.7	1.28
Maximum Exposed Individual at a Worker (MEIW) location	726936.2	3866810.8	0.62
Judkins Middle School, near PBR	715063.0	3891697.3	0.84
SLOCAPCD / SBCAPCD Threshold	---	---	10
Threshold Exceeded? (Yes/No)	---	---	No

Source: PG&E, 2022b – Table 4.
Acronyms: UTM – Universal Transverse Mercator coordinates.

For the residences or other sensitive receptors nearest to the DCPP site, the combination of on-site demolition, marine vessels, and truck travel results in an excess cancer risk of 1.28 chances in one million at the Maximum Exposed Individual at a Residential (MEIR) location in the community of Avila Beach (PG&E, 2022b). The maximally exposed off-site worker receptors near the SMVR-SB site would have 0.62 chances in one million, and school exposure at Judkins Middle School would have 0.84 chances in one million. Noncancer chronic health hazards for this first scenario would be less than applicable thresholds (PG&E, 2022b). These levels would not exceed any threshold of significance for adverse health effects and would not be greater than 10 excess cancer cases in a million for all receptors. This represents a less-than-significant impact for all receptors for the Proposed Project activities at the DCPP site, PBR, and SMVR-SB (Class III).

Valley Fever

Valley Fever infections are known to occur throughout Southern California. Potential infection could occur as a result of inhaling fugitive dust emissions. By generating fugitive dust, the Proposed Project could cause exposure to the arthroconidia (spores) of the fungus *Coccidioides immitis* if those spores are present in areas being disturbed or in areas where travel occurs on unpaved surfaces. Exposure to the *Coccidioides immitis* spores could cause individuals nearby to contract the disease. Ground disturbing activities at the DCPP site would generate the largest proportion of fugitive dust emissions; however, because the DCPP site is generally surrounded by open space, the potential for decommissioning activities at the DCPP site to expose the public to *Coccidioides immitis* spores would be low. The Proposed Project would not require grading as part of the anticipated site improvements at either of the SMVR sites. The primary way to avoid Valley Fever is to limit exposure to the *Coccidioides immitis* spores. Controlling fugitive dust is an effective strategy for preventing *Coccidioides immitis* spores from becoming airborne. As part of the Proposed Project PG&E would reduce the amount of disturbed area, reduce vehicle speeds on unpaved surfaces, and water disturbed soil areas during decommissioning (Applicant Commitment (AC) AQ-1, *Minimize Fugitive Dust*, and AC AQ-5, *SLOAPCD Fugitive Dust Reduction Measures*). As such, the potential for the Proposed Project to substantially increase the incidence of Valley Fever infection would not be significant (Class III).

Naturally Occurring Asbestos

If airborne particulates include naturally occurring asbestos (NOA), they could be subject to the California TAC Identification and Control Program (Health and Safety Code Section 39650 et seq. [H&SC §§ 39650-39675]). PG&E investigated the potential presence of NOA in surface materials, including roads, parking lots, and other areas to be removed as part of the Proposed Project (PG&E, 2021c).

The July 2020 investigation used a focused geologic evaluation and certified laboratory analytical results to evaluate the asbestos content (PG&E, 2020). Suspected serpentine rock formations on site were included in the evaluation, and the samples collected did not contain concentrations of NOA that exceed the concentration limit in the CARB Airborne Toxic Control Measures for construction activities (PG&E, 2020). The SLOCAPCD maintains a database to show buffer zones where NOA may be encountered in the County, and the DCPP site is not located within these buffer zones. PG&E would need to submit to the SLOCAPCD a form for an NOA Exemption including the geologic evaluation prior to ground disturbing activities (PG&E, 2021d). The Proposed Project would not require grading as part of the anticipated site improvements at either of the SMVR sites. The potential for the Proposed Project to substantially increase airborne concentrations of NOA would not be significant (Class III).

Proper Abatement of Regulated Asbestos-Containing Material (RACM)

Demolition and renovation activities can involve handling, abatement, and disposal of regulated asbestos-containing material (RACM). RACM could be encountered during the demolition and decommissioning of DCPP. If the Proposed Project encounters RACM or requires demolition or renovation of a regulated structure, it may be subject to various regulatory requirements including those detailed in the asbestos NESHAP regulation (40 CFR 61, Subpart M).

Proper Abatement of Lead-Based Coated Structures

Demolition, remodeling, sandblasting, or removal of structures with lead-based coatings can result in the release of lead-containing particles from the site. Proper abatement of lead-based paint must be performed to prevent the release of lead particles from the DCPP site. An APCD permit would be required for sandblasting operations.

Railyards

Pismo Beach Railyard. Proposed Project activities at the PBR site were evaluated for adverse health effects by PG&E and its consultants within the HRA as updated for all Phase 1 activities (PG&E, 2022b).

The cancer risk results for activities at the DCPP site including transportation and improvements at the PBR and SMVR-SB (Betteravia Industrial Park) sites are shown in Table 4.2-15, as discussed with the overall discussion of Phase 1 activities.

The potential to expose sensitive receptors to substantial pollutant concentrations through use of the PBR site would be a less than significant impact (Class III).

SMVR-SB. Proposed Project activities at the SMVR-SB (Betteravia Industrial Park) site were included in the HRA as discussed with the evaluation of the DCPP site (PG&E, 2022b).

The cancer risk results for activities at the DCPP site including transportation and improvements at the PBR and SMVR-SB (Betteravia Industrial Park) sites appear in Table 4.2-15, as discussed with the overall discussion of Phase 1 activities.

No schools are near the SMVR-SB site. The cancer risk impact for the SMVR-SB site reflects the Proposed Project's use of equipment meeting Tier 4 emission standards (AC AQ-2) and Tier 4 Interim equipment for smaller equipment (model year 2012 or newer for engines rated under 100 hp) and limiting idling of diesel equipment or vehicles (AC AQ-3) to minimize pollutant concentrations. The potential to expose sensitive receptors to substantial pollutant concentrations through use of the SMVR-SB site would be a less than significant impact (Class III).

Phase 2

Emissions during Phase 2 would occur generally within the DCPP site and would occur at lower rates than those in Phase 1 due to much less intensive activity and fewer transportation trips. The railyard sites would not be used during Phase 2. For residences or other sensitive receptors nearest to the DCPP site, adverse health effects from Phase 1 would be substantially higher than those resulting from decommissioning emissions in Phase 2. Phase 2 emissions would not affect any receptors near the DCPP site (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, long-term operations including management of the new GTCC Storage Facility and operation of the Security Building, indoor Firing Range, and Storage Buildings would occur within the DCPP site. These activities would occur far from sensitive

receptors and would not create emissions likely to result in substantial pollutant concentrations (Class III).

Future Actions. Marina improvement and operations would be completed by a third party who would be required to obtain necessary land use and building permits as well as a new or amended lease from CSLC. The Breakwaters would remain in place and the Marina would be used for small vessels to be launched into the Intake Cove. These improvements and operations would occur far from sensitive receptors. Emissions from these activities were included conservatively in the Phase 2 calculations and were found to not result in in substantial pollutant concentrations (Class III).

Mitigation Measures for Impact AQ-3.

AQ-1 Implement a Decommissioning Activity Management Plan (DAMP)

AQ-2 Provide Funding for Off-site Mitigation of Equipment Emissions

Impact AQ-4: Create objectionable odors affecting a substantial number of people (Class III: Less than Significant).

Phase 1

DCPP Project Site

Typical objectional odors during construction include ammonia, chlorine, and hydrogen sulfide, and the Proposed Project would not create these pollutants in measurable quantities. Diesel equipment exhaust could be a potential source of odor during any of the decommissioning activities, although only for people immediately adjacent to the source. There are no residences or other occupied properties located within 6.5 miles of activities on the DCPP site, and no decommissioning activity would have a substantial number of people near it. During decommissioning at the DCPP site there would be no objectionable odors that would affect a substantial number of people resulting in a less-than-significant impact (Class III).

Railyards

Pismo Beach Railyard. The Proposed Project activities at the PBR site would not create any notable odor sources. Some objectionable odors may be temporarily created during development of improvements at the site, such as from diesel exhaust. These odors would not affect a substantial number of people, would only occur during short periods of time, and would be consistent with general construction activities that are not out of the ordinary. Odors related to activities at the PBR site would not cause a significant impact to a substantial number of people (Class III).

SMVR-SB. Activities at the SMVR-SB site would not create any notable odor sources. Development of improvements and waste transport activities at these sites would cause emissions from diesel exhaust. These odors would not affect a substantial number of people, would only occur during short periods of time, and would be consistent with general construction

and railyard activities that are not out of the ordinary. Odors related to activities the SMVR-SB site would not cause a significant impact to a substantial number of people (Class III).

Phase 2

Phase 2 activities would result in emissions that would be similar to but well below those of Phase 1. As the distances to sensitive receptors would not change, Phase 2 would also not create objectionable odors that would affect a substantial number of people. This impact would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, operational activities at the DCPP site would include long-term management of the GTCC Waste Storage facility and operation of the Security Building, indoor Firing Range, and Storage Buildings. These activities are not known to create objectionable odors, and with the large distances to sensitive receptors any potentially objectionable odors would not affect a substantial number of people. This impact would be less than significant (Class III).

Future Actions. Marina improvement and operations would not include activities known to create objectionable odors, and with the large distances to sensitive receptors any potentially objectionable odors would not affect a substantial number of people. This impact would be less than significant (Class III).

Mitigation Measures for Impact AQ-4. No mitigation measures are required.

4.2.5 Cumulative Impact Analysis

Geographic Extent Context

The geographic area of analysis for cumulative air quality impacts is the South Central Coast Air Basin because the majority of Proposed Project emissions and cumulative project emissions would be confined to this region. Cumulative effects may also be experienced within the immediate vicinity of the sources.

Section 3.3, *Cumulative Projects,* discusses and lists relevant similar projects within the geographic vicinity of the Proposed Project and barge route. These include approved and planned development projects in Avila Beach, the cities of Pismo Beach and Santa Maria, County of Santa Barbara, and approved and in progress energy projects near the barge route.

Cumulative projects that may be located within one mile of the Proposed Project and are considered for potential cumulative impacts related to air quality include:

Diablo Canyon Power Plant

- Orano System ISFSI Modifications (#1)
- Communications Facility (#2)
- Flying Flags Campground (#4)
- Port San Luis Breakwater Repair (#25)

Pismo Beach Railyard

- Signal at Bello and Price Canyon Road (#7)
- Public Safety Center (#9)
- Bello Road Paving (#10)
- Price Street Sidewalk Pavers (#11)
- Realign Frady Lane (#12)
- Storm Drain on Wadsworth from Bello to Judkins Middle School (#13)

SMVR-SB – Betteravia Industrial Park (County of Santa Barbara)

- No projects within 1 mile of SMVR-SB

Cumulative Impact Analysis

Phase 1 and Phase 2

Cumulatively adverse air quality impacts could occur if the cumulative projects identified above were to cause significant air quality impacts concurrently with the Proposed Project and near a sensitive receptor. The potential for cumulative emissions to cause excessive air pollutant concentrations would be greatest for any sensitive receptors located proximate to two or more work sites that are active at the same time. Decommissioning activities could overlap with certain cumulative projects on the DCPP site. The Orano System ISFSI Modifications (#1) would be likely to occur on a concurrent schedule with Phase 1. The precise daily peak emissions of the overlapping activities cannot be readily predicted. However, each project would be expected to implement feasible emissions control measures that would be required through County and/or local air district review.

As shown in Table 4.2-16, the Orano System ISFSI modifications would not exceed daily or quarterly SLOCAPCD air quality thresholds.

Table 4.2-16. Orano System ISFSI Modifications, DCPP Site Maximum Emissions

Phase	NO_X + VOC	Exhaust PM10 or DPM	Fugitive PM10
Daily Emissions (lbs/day)	47.81	0.59	2.58
SLOCAPCD Threshold (lbs/day)	137	7	-
Threshold Exceeded? (Yes/No)	No	No	N/A
Quarterly Emissions (tons/quarter)	2.07	0.03	0.14
SLOCAPCD Threshold (tons/quarter)	2.5	0.13	2.5
Threshold Exceeded? (Yes/No)	No	No	No

Source: Stantec, 2022 – Table 3.
Acronyms: NO_X = nitrogen oxides, VOC = volatile organic compounds, PM10 = course particulate matter, DPM = Diesel Particulate Matter.

The potential for a long-term cumulative impact would be limited to the duration of decommissioning because the peak levels of emissions from decommissioning activities emissions would occur during limited durations of certain activities that would incrementally transition through the decommissioning schedule. Upon conclusion of Phase 1, the emissions during Phase 2 would occur at substantially lower rates. With implementation of the recommended mitigation mea-

sures, the Proposed Project's contribution toward cumulative impacts would be limited in duration and intensity.

The discussion for Impact AQ-1 indicates that the Proposed Project would be likely to conform with applicable air quality management plans. Although cumulative projects could worsen this impact, the contribution of the Proposed Project would not be cumulatively considerable.

The discussion for Impact AQ-2 shows that emissions from Phase 1 activities at the DCPP site would result in criteria air pollutant emissions at rates exceeding the SLOCAPCD thresholds and result in a cumulatively considerable net increase of ozone precursor emissions before considering mitigation. Mitigation identified for Impact AQ-2 would provide funding to achieve emissions reductions that would reduce the effects to a level that is not cumulatively considerable. Similarly, Impact AQ-3 shows the Proposed Project could expose sensitive receptors to substantial pollutant concentrations. Due to the distances between the Proposed Project activities and the cumulative projects and the distances between the Proposed Project to sensitive receptors, the cumulative effects of excess cancer risks for activities at the DCPP site, PBR, and SMVR-SB sites would not be significant.

The discussion of Impact AQ-4 indicates that the Proposed Project would not emit significant objectionable odors, and so would not create a substantial contribution to cumulative odor impacts.

Post-Decommissioning Operations

New Facility Operations. As discussed, Impacts AQ-1, AQ-2, AQ-3, and AQ-4 would create less than significant impacts for new facility operations. While cumulative projects could potentially worsen these impacts, considering the distances between the Proposed Project and cumulative projects as well as the Proposed Project and sensitive receptors, the cumulative effect for new facility operations would not be significant.

Future Actions. Marina improvement and operations would have less than significant impacts for Impacts AQ-1, AQ-2, AQ-3, and AQ-4. While cumulative projects could potentially worsen these impacts, considering the distances between the Proposed Project and cumulative projects, as well as between the Proposed Project and sensitive receptors, they would not create cumulatively significant impacts.

4.2.6 Summary of Significance Findings

Table 4.2-17 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project.

Table 4.2-17. Summary of Impacts and Mitigation Measures – Air Quality

	Impact Significance Class				
	Phase 1		Phase 2	Post-Decom	
Impact Statement	***DCPP***	***PBR/SB***	***DCPP***	***Ops/Marina***	**Mitigation Measures**
AQ-1: Conflict with or obstruct implementation of an applicable air quality plan	III	III/III	III	III/III	None required
AQ-2: Result in a cumulatively considerable net increase of any criteria air pollutant for which the Project region is in nonattainment	II	III/III	III	III/III	**AQ-1:** Implement a Decommissioning Activity Management Plan (DAMP) **AQ-2:** Provide Funding for Off-site Mitigation of Equipment Emissions
AQ-3: Expose sensitive receptors to substantial pollutant concentrations	II	III/III	III	III/III	**AQ-1** and **AQ-2** (see above)
AQ-4: Create objectionable odors affecting a substantial number of people	III	III/III	III	III/III	None required
Cumulative Impact	Not cumulatively considerable		Not cumulatively considerable		None required

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long-Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

4.3 Biological Resources - Terrestrial

This section describes terrestrial species and habitats in the Project area (DCPP site, Pismo Beach Railyard [PBR], and Santa Maria Valley Railyard in Santa Barbara County [SMVR-SB]) that could be affected by decommissioning activities, identifies applicable significance thresholds, assesses the Proposed Project's impacts to terrestrial biological resources and their significance, and recommends measures to avoid or substantially reduce any effects found to be potentially significant. The environmental setting is primarily based on the *Diablo Canyon Decommissioning Terrestrial Biological Resources Assessment* (PG&E, 2020a), various biological surveys performed by Terra Verde at the Project sites between 2021 and 2022 (Pacific Gas & Electric [PG&E], 2021a; 2021b; 2022a; 2022b; 2022c; 2022d; 2022e), other technical studies prepared for PG&E by Terra Verde or others, and an independent literature review. This section also incorporates observations from field validations performed by Aspen Environmental Group (Aspen) and the results of coordination with the California Department of Fish and Wildlife (CDFW), United States Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS).

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and considered in preparing this section:

- Thoroughly analyze all terrestrial biological resources that are present on-site including species abundance, distribution, and status.
- Conduct botanical surveys during a year with average or above average precipitation and during the appropriate time, including ensuring that blooming plants are adequately surveyed.
- Conduct protocol surveys for sensitive and federally listed species as soon as possible and fully analyze potential effects of the Proposed Project on these species.
- Address all direct, indirect, and cumulative effects of the Proposed Project on biological resources.
- Identify specific and clearly defined mitigation measures for special-status species providing quantifiable and enforceable measures to reduce impacts to less-than-significant levels.

Agency Coordination and Consultation. The County of San Luis Obispo and Aspen conducted routine meetings with CDFW and USFWS to evaluate existing conditions and confirm survey requirements to support the CEQA evaluation of the DCPP Decommissioning Project. In addition, the County coordinated with the Nuclear Regulatory Commission (NRC) to discuss permitting and licensing requirements.

4.3.1 Environmental Setting

The climate along the Central Coast is typically characterized as Mediterranean with mild year-round temperatures averaging 80 degrees in the dry summer months and 60 degrees in the moist winter months. The coastal influence of the Pacific Ocean moderates temperatures in the summer and winter and provides moisture in the form of coastal fog. Rainfall is highly seasonal, with 80 percent of the average annual 17 inches of precipitation falling between December and April (San Luis Obispo, 2020).

Diablo Canyon Power Plant (DCPP). The DCPP site is located within the Irish Hills, which are part of the Santa Lucia Mountain Range, in unincorporated San Luis Obispo County. The DCPP site is approximately 7 miles northwest of Avila Beach, with the Pacific Ocean to the west and southwest and Montaña de Oro State Park directly north. The DCPP site, which is based on the boundary of the facility's Federal Part 50 License, is comprised of 750 acres; approximately 610 acres are located within the Coastal Zone and 140 acres extend inland, outside of the Coastal Zone. The coastal border of the site is defined by rocky bluffs with gently to moderately sloping terraces ranging from 70 to 100 feet above sea level. Developed and ruderal areas are primarily concentrated on a flat and expansive lower terrace, with structures scattered across the landscape. Diablo Creek flows southwest from the Irish Hills and along the northern edge of the developed areas of the DCPP site. This feature was considerably modified from its natural condition during construction of the DCPP facility, with approximately 0.5-mile of the creek culverted or filled. Several additional unnamed drainages, most of which are fed by artesian springs, also occur on the site. The site is surrounded by approximately 12,000 acres of open space lands that are owned by either PG&E or Eureka Energy. The surrounding non-developed open space supports intact natural habitats comprised of rolling coastal hills and bluffs in a mosaic of grazed annual grasslands, coast live oak woodlands, riparian woodlands, chaparral, and various scrub habitats.

Pismo Beach Railyard (PBR). The PBR site consists of approximately 25.5 acres and is located along Price Canyon Road in the City of Pismo Beach. The southwestern corner of the site occurs within the Coastal Zone. The majority of the PBR site is developed, including roadways, paved parking areas, and buildings. The site slopes west to east and drains into a man-made canal along the eastern boundary, then draining into the Pismo Creek channel located approximately 250 feet to the east. Pismo Creek supports intact riparian vegetation and flows directly to the traditionally navigable waters of the Pacific Ocean less than 1 mile south of the site. Adjacent open space areas are characterized by non-native grasslands, roadside ruderal areas, riparian habitat, and coast live oak woodlands.

Santa Maria Valley Railyard (SMVR-SB). The SMVR-SB site consists of approximately 28.4 acres located roughly 1.6 miles west of the City of Santa Maria and approximately 3.2 miles southeast of the City of Guadalupe in Santa Barbara County. The eastern portion of the site is developed, consisting of infrastructure associated with an historic sugar refinery while the western portion consists of an existing railroad track with a series of spur lines bordered by a dense eucalyptus grove. Guadalupe Lake is located approximately 350 feet to the south.

Methodologies

To support this evaluation, data regarding terrestrial biological resources was obtained through literature review and field surveys, as described below. The data collection focused on resources that have the potential to occur on the Project sites.

Literature Review. Special-status biological resources known to, or with the potential to, occur in the Project area were identified through a review of existing literature sources including US Geological Survey (USGS) topographic maps, aerial photography, and the CDFW California Natural Diversity Database (CNDDB) (CDFW, 2022a). A 10-mile buffer was used for each site to gather data on potential biological resources, which encompassed either the entirety or portions of the following USGS 7.5-minute topographic quadrangles:

- Arroyo Grande NE
- Casmalia
- Guadalupe
- Lopez Mtn.
- Morro Bay South
- Nipomo
- Oceano
- Orcutt
- Pismo Beach
- Port San Luis
- Point Sal
- San Luis Obispo
- Santa Maria
- Sisquoc
- Tar Spring Ridge
- Twitchell Dam

Additional data regarding the potential occurrence of sensitive biological resources were gathered from several additional sources including:

- Various biological resource databases and lists, including USFWS Information for Planning and Conservation Program (IPaC); CDFW Special Plants and Animals Lists; California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California; Consortium of California Herbaria (CCH) San Luis Obispo County records; eBird online records for the Proposed Project area including a 10-mile buffer; and, iNaturalist online records for the Project area including a 10-mile buffer (USFWS, 2022; CDFW, 2022b; CNPS, 2022; CCH, 2022; eBird, 2022; iNaturalist, 2022).
- Various biological resource reports prepared for the Proposed Project, including Biological Resource Assessments and Addenda for the DCPP, PBR, and SMVR-SB sites; Site Assessment and Survey Reports for California Red-Legged Frog (*Rana draytonii*) and California Tiger Salamander (*Ambystoma californiense*); and a Preliminary Oak Tree Inventory and Mitigation Plan (PG&E, 2020a; 2021a; 2021b; 2022a; 2022b; 2022c; 2022d; 2022e).
- Previous biological resource reports completed for projects within the vicinity of the Project area (PG&E, 2016a; 2016b).

Field Surveys. Terra Verde conducted biological resource assessments within and adjacent to the Proposed Project area sites in 2020, 2021, and 2022 (PG&E, 2020a; 2021a; 2021b; 2022a; 2022b; 2022c; 2022d; 2022e). In addition, Aspen conducted site visits in 2021 and 2022 to confirm the vegetation mapping and survey results as they related to current baseline conditions in the Project area, and to perform an assessment of potential wetlands and other jurisdictional features at the DCPP site. Table 4.3-1 summarizes the field surveys conducted to date for the Proposed Project.

Table 4.3-1. Summary of Field Surveys

Survey Focus	Date(s)	Location	Number of Personnel
California red-legged frog habitat assessment	March 2, 2020	DCPP, Tom's Pond[1]	2
California red-legged frog habitat assessment	March 5, 2020	PBR	3
Supplemental Diablo Creek steelhead survey and habitat assessment	April 29, 2020	DCPP (upper Diablo Creek)	3
Protocol-level California red-legged frog daytime survey	April 28, May 19, July 8, 2020	PBR	2
Protocol-level California red-legged frog nighttime survey	May 12, June 2, June 9, June 24, July 22, 2020	PBR	2
Protocol-level California red-legged frog survey[2]	April 29, 2020	DCPP	3
Botanical survey and habitat assessment	May 5, 2020	DCPP	1
Supplemental Diablo Creek steelhead survey and habitat assessment	May 6, 2020	DCPP (lower Diablo Creek)	1
Botanical and wildlife survey, habitat assessment, preliminary jurisdictional analysis	May 6-8, 11, 13, and June 17, 2020	DCPP	2
Botanical and wildlife survey, habitat assessment, preliminary jurisdictional analysis	May 19, 2020	PBR	2
Wetland delineation	June 30, 2020	PBR	2
Focused botanical survey[3]	July 13, 2020	DCPP	1
Reconnaissance-level biological resources assessment	April 13 and June 14, 2021	SMVR-SB	2
Preliminary oak tree inventory	June 15, 2021	DCPP	2
California tiger salamander site assessment	December 28, 2021	SMVR-SB	1
California red-legged frog daytime survey	April 21, 2022	DCPP (Diablo Creek), Tom's Pond	3
Spring botanical survey[3]	April 22 and May 23, 2022	DCPP	3
Spring botanical survey	April 28, 2022	SMVR-SB	2
California red-legged frog nighttime survey	April 29, May 5 and 16, 2022	DCPP (Diablo Creek), Tom's Pond	4
California red-legged frog daytime survey	May 27 and June 6, 2022	Tom's Pond	3
California tiger salamander site assessment	June 6, 2022	Tom's Pond	1

Table 4.3-1. Summary of Field Surveys

Survey Focus	Date(s)	Location	Number of Personnel
Aquatic assessment for wetlands and other jurisdictional features[4]	July 11, 2022	DCPP	2

Source: PG&E, 2020a, 2021a, 2022a, 2022b, 2022c, 2022d, 2022e.
[1] Tom's Pond is a perennial water feature approximately 1.5 miles north of the DCPP site (see Figure 4.3-7).
[2] Survey effort was terminated once the species was confirmed present on April 29, 2022.
[3] Survey focused on six plant species requested for reevaluation by the County and other agencies (PG&E, 2022a).
[4] All field analyses conducted by PG&E, with the exception of the July 2022 aquatic assessment performed by Aspen Environmental Group.

Terrestrial Vegetation Communities and Land Cover Types

Vegetation cover is determined by biotic and abiotic factors including elevation, aspect, proximity to water, and landforms or soil type. In the Project area, vegetation primarily consists of common plant species and vegetation characteristic of the coastal ranges and valleys of the Central Coast. Despite a history of past disturbance from development, cattle grazing, and other activities, the Project area supports a variety of native and non-native vegetation communities. Terrestrial vegetation communities and other land cover types throughout the Project area were mapped and described by Terra Verde (PG&E, 2020a, 2021a). The associated acreages identified in the Project area are summarized in Table 4.3-2 and shown in Figures 4.3-1 to 4.3-3.

Table 4.3-2. Terrestrial Vegetation and Land Cover Types and Acres Present in the Project Area

Vegetation and Land Cover Type	DCPP	PBR	SMVR-SB	*Total Acres*
Coastal, Riparian, and Wetland Communities				
Arroyo Willow Thickets**	6.12	0.37	--	*6.49*
Hardstem and California Bulrush Marshes**	0.06	0.19	--	*0.25*
Cattail Marshes**	--	0.06	--	*0.06*
Artesian Springs / Freshwater Wetlands**	1.00	--	--	*1.00*
Upland Communities				
Wild Oats and Annual Brome Grasslands	331.01	1.00	--	*332.01*
Needlegrass – Melic Grass Grassland	3.74	--	--	*3.74*
Coyote Brush Scrub**	37.37	0.12	1.75	*39.24*
Coastal Bluff Scrub*/**	6.70	--	--	*6.70*
California Sagebrush Scrub**	101.57	--	--	*101.57*
California Coffeeberry Scrub*	1.54	--	--	*1.54*
Bush Monkeyflower Scrub*	18.93	--	--	*18.93*
Chamise – Black Sage Chaparral	2.63	--	--	*2.63*
Buck Brush Chaparral	16.93	--	--	*16.93*
Toyon Chaparral	10.25	--	--	*10.25*

Table 4.3-2. Terrestrial Vegetation and Land Cover Types and Acres Present in the Project Area

Vegetation and Land Cover Type	DCPP	PBR	SMVR-SB	*Total Acres*
Coast Live Oak Woodland and Forest**	24.48	5.45	--	*29.93*
Ice Plant Mats	--	2.53	--	*2.53*
Eucalyptus Grove	--	--	6.81	*6.81*
Other Land Cover Types				
Ruderal / Disturbed	4.12	3.67	6.20	*13.99*
Developed	142.86[1]	15.17	13.59	*171.62*
Total	**709.31[2]**	**28.56**	**28.35**	***766.22***

Source: PG&E, 2020a; 2021a

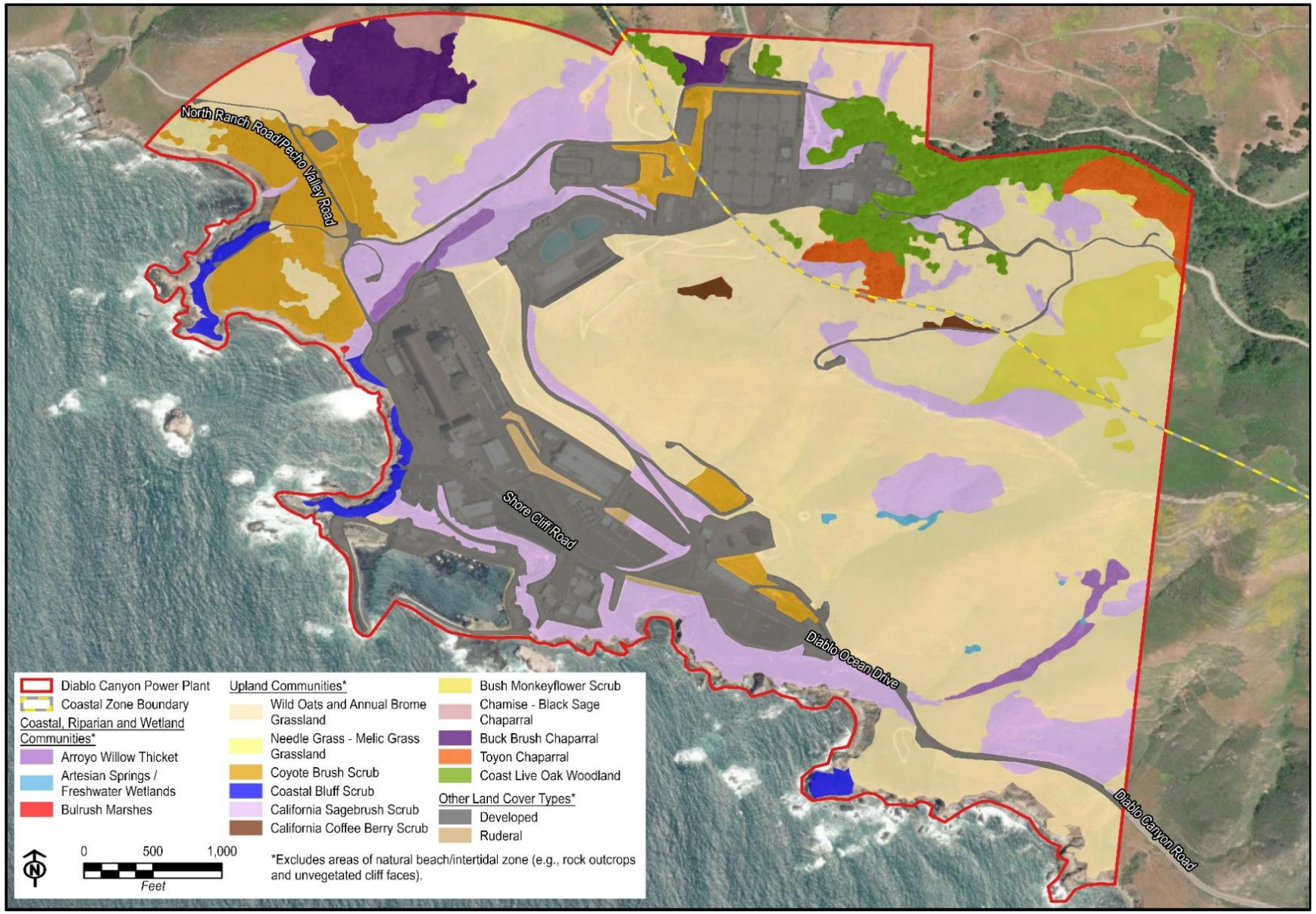
[1] Acreage of developed area does not include the Vertical Cask Transporter Warehouse area (see Figure 2-2).

[2] Acreage total includes terrestrial vegetation communities and other land cover types and excludes areas of natural beach/intertidal zone (e.g., Intake Cove, rocky outcrops, unvegetated cliff faces) within the approximately 750-acre DCPP boundary.

* Designated as a CDFW Sensitive Natural Community

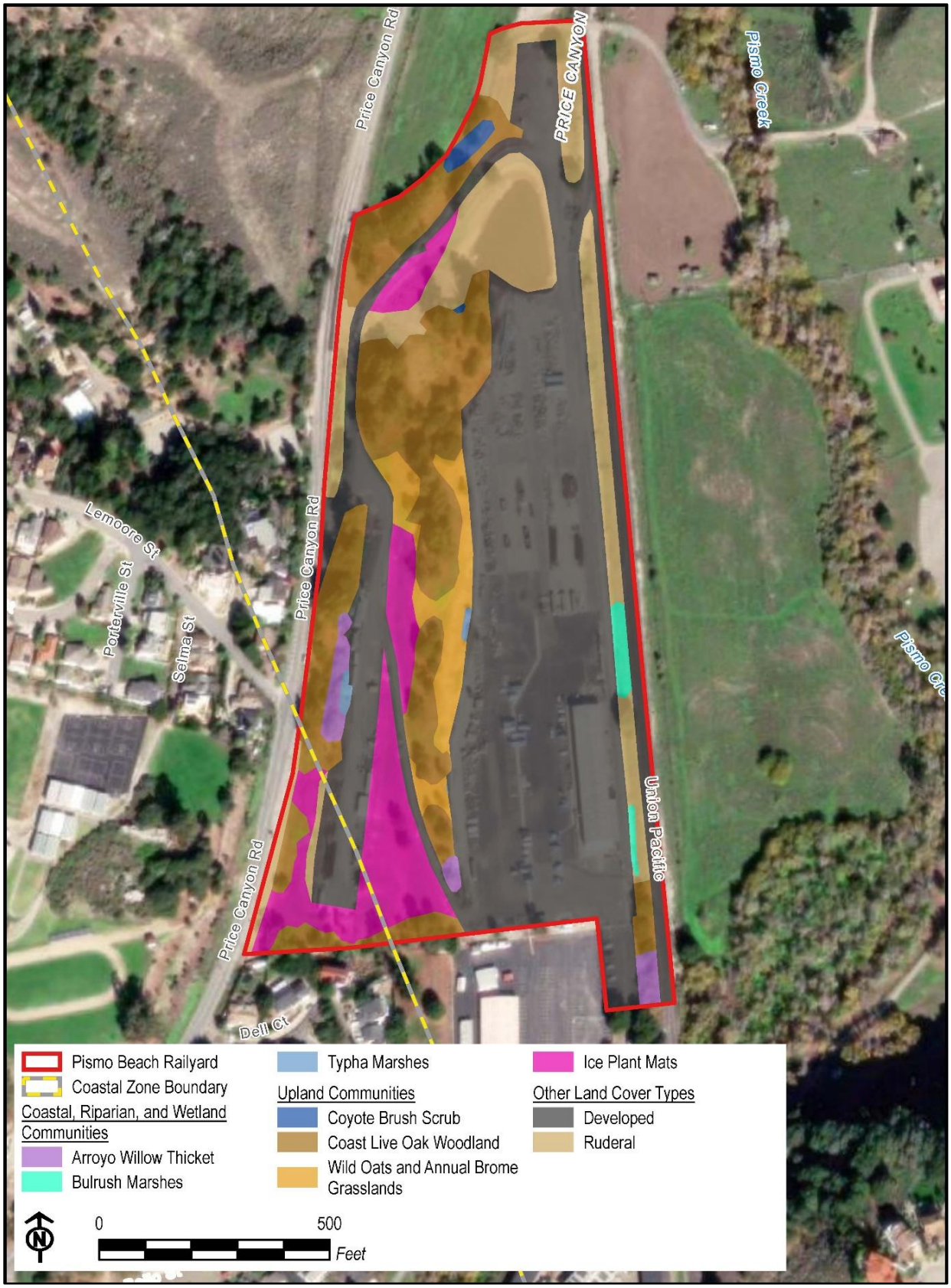
** Community or portion of community identified as an Environmentally Sensitive Habitat Area (ESHA) pursuant to Section 30107.5 of the Coastal Act and Section 23.07.170 of the San Luis Obispo County Code

Figure 4.3-1. DCPP Vegetation and Cover Types



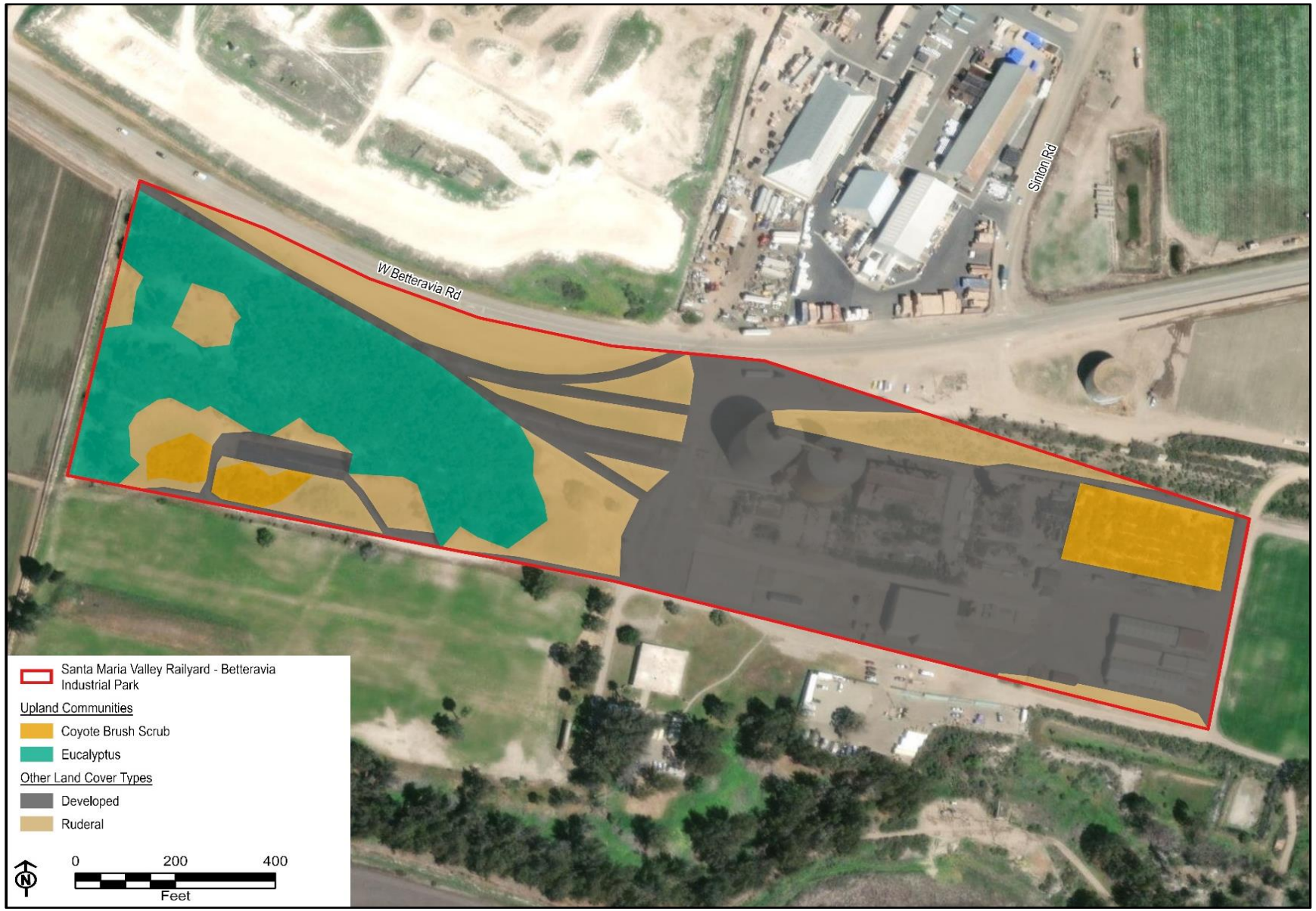
Source: Esri, 2022; Terra Verde Environmental Consulting, LLC (Terra Verde), 2022.

Figure 4.3-2. PBR Vegetation and Cover Types



Source: Esri, 2022; PG&E, 2021c.

Figure 4.3-3. SMVR-SB Vegetation and Cover Types



Source: Esri, 2022; PG&E, 2021c.

Coastal, Riparian, and Wetland Vegetation Communities

Riparian habitats are biologically diverse and are the exclusive habitat for many wildlife species. Many of these species are wholly dependent on riparian habitats throughout their life cycles, while others may utilize these habitats during certain seasons or life history phases. These habitats provide food and shelter resources for fish and other aquatic species while also providing the structural complexity required for nesting and foraging for a variety of species. Riparian communities support a broader diversity of wildlife due to higher biological productivity, denning site availability, thermal cover, and greater access to water.

Primary productivity in riparian habitats is high due to year-round soil moisture. High plant productivity leads to increased habitat structural diversity and increased food availability for herbivorous animals, and in turn, predatory animals. Insect productivity is also exhibited at relatively higher levels in riparian systems. During warmer months, large numbers of insects provide a prey base for diverse fauna. Structural diversity is also much more evident in riparian systems than those of most regional uplands. Riparian woodlands tend to have multilayered herb, shrub, and tree canopies, whereas most upland communities are of a relatively simple structure.

Much of the natural riparian vegetation in California has been lost or degraded due to a variety of factors, including land use conversions to agricultural, urban, and recreational uses; channelization for flood control; sand and gravel mining; groundwater pumping; water impoundments; and various other alterations.

Riparian and wetland vegetation communities are limited to a total of approximately 7.8 acres in the Project area and are comprised of arroyo willow (*Salix lasiolepis*) thickets, marshes, and artesian springs/freshwater wetlands at the DCPP and PBR sites.

Arroyo Willow Thickets (*Salix lasiolepis* Shrubland Alliance). Arroyo willow thickets comprise a total of 6.5 acres and are present at the DCPP and PBR sites where they are associated with drainages or isolated wetland features.

At the DCPP site, arroyo willow thickets occur along the lower reaches of Diablo Creek in the northwest portion of the site and an unnamed drainage in the southeast portion of the site. These thickets are dominated by an overstory of arroyo willow that forms an intermittent to continuous riparian canopy. The multi-layered understory at Diablo Creek consists of blue elderberry (*Sambucus nigra* ssp. *caerulea*), American dogwood (*Cornus sericea* ssp. *sericea*), western poison oak (*Toxicodendron diversilobum*), California coffee berry (*Frangula californica*), and California blackberry (*Rubus ursinus*). Emergent herbaceous vegetation is dominated by western water hemlock (*Cicuta douglasii*) and giant horsetail (*Equisetum telmateia* ssp. *braunii*). At the unnamed drainage, which has been heavily impacted by cattle use, sagebrush scrub borders and mixes with the willow canopy and is dominated by California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), and California coffee berry. The stream channel along this drainage occasionally flattens, forming wide, flooded areas with emergent herbaceous vegetation that includes cattails (*Typha* sp.), low bulrush (*Isolepis cernua*), watercress (*Nasturtium officinale*), cutleaf water parsnip (*Berula erecta*), maritime plantain (*Plantago maritima*), and seaside brookweed (*Samolus parviflorus*).

At the PBR site, arroyo willow thickets are limited to two remnant patches associated with isolated wetland features that are fed by off-site artesian springs. The shrub layer within these patches is continuous while the understory is intermittent to continuous, with slender willow herb at low cover. This community is also associated with a cattail wetland located along the western boundary of the railyard.

This community most closely corresponds with *Salix lasiolepis* Shrubland Alliance (arroyo willow thickets) in a *Manual of California Vegetation* (MCV) (Sawyer et al., 2009). Because this community is dominated by hydrophytic species, it is considered a coastal wetland and meets the definition of Environmentally Sensitive Habitat Area (ESHA) wherever it occurs within the Coastal Zone. Arroyo willow thickets provide valuable and often essential habitat for nesting birds, reptiles, small mammals, and other wildlife.

Hardstem and California Bulrush Marshes (*Schoenoplectus* (*acutus, californicus*) Herbaceous Alliance). Hardstem and California bulrush marshes comprise approximately 0.25 acre and are found at the DCPP and PBR sites. At the DCPP site, this community occurs as a small patch of marsh habitat along the mouth of Diablo Creek, immediately upstream of the confluence with the Pacific Ocean. Due to the steep conditions just below the mouth of Diablo Creek, it is assumed that this area rarely receives tidal influence and therefore supports mostly freshwater habitat. This habitat is dominated by bulrush (*Schoenoplectus* spp.) with cattail, horsetail (*Equisetum* sp.), watercress (*Nasturtium officinale*), and salt grass (*Distichlis spicata*) present at low cover at the DCPP site. It is also present at the PBR site where it occurs within the channel of an unnamed drainage bordering the eastern edge of the site. This habitat is dominated by rabbitfoot grass (*Polypogon monspeliensis*) and ditch beard grass (*P. interruptus*) present along the margins and understory at the PBR site.

This community most closely corresponds with *Schoenoplectus* (*acutus, californicus*) Herbaceous Alliance (hardstem and California bulrush marshes) in the MCV classification system and is considered a CDFW sensitive natural community. It also meets the definition of ESHA as a coastal wetland. Hardstem and bulrush marshes provide valuable habitat for nesting birds, reptiles, small mammals, and other common and special-status wildlife species.

Cattail Marshes (*Typha* [*angustifolia, domingensis, latifolia*] Herbaceous Alliance). Cattail marshes comprise approximately 0.06 acre and occur in association with three isolated wetlands at the PBR site. These features are fed by offsite artesian springs that provide perennial water and support emergent herbaceous wetland vegetation dominated by broad-leaved cattail (*Typha latifolia*). The westernmost of these wetlands supports an overstory of arroyo willow and an herbaceous layer co-dominated by low-growing bulrush and hornwort (*Ceratophyllum demersum*), with mountain bog bulrush (*Scirpus microcarpus*) and slender willow herb (*Epilobium ciliatum*) also present.

This community most closely corresponds with *Typha* (*angustifolia, domingensis, latifolia*) Herbaceous Alliance (cattail marshes) in the MCV classification system. It is also considered a coastal wetland and meets the definition of an ESHA where it occurs within the Coastal Zone at the PBR site.

Artesian Springs / Freshwater Wetlands. Nine artesian springs and associated freshwater perennial wetlands were identified at the DCPP site during 2020 surveys (PG&E, 2020a). Eight of the springs are located along the south-facing ridgeline that rises steeply above the coastal terrace in the southern portion of the site while one occurs at the headwaters of an unnamed drainage on the opposite side of the same ridgeline. Most of the springs flow directly into intermittent drainages identified on the site and two are isolated, forming small patches of wetland habitat on steep side slopes. Each of these locations support perennial wetland vegetation communities that are unique and distinct from the adjacent habitats.

The majority of these areas support dense arroyo willow thickets, with California coffee berry and western poison oak (*Toxicodendron diversilobum*) co-dominant in the shrub layer while others flow from rocky escarpments that primarily support mostly herbaceous vegetation, including cutleaf water parsnip (*Berula erecta*), tall flatsedge (*Cyperus eragrostis*), maritime plantain (*Plantago maritima*), seaside brookweed (*Samolus parviflorus*), watercress (*Nasturtium* sp.), low bulrush (*Scirpus cernuus*), and southern goldenrod (*Solidago confinis*).

The shrub-dominated habitats associated with some of these springs most closely correspond with the arroyo willow thickets community described above. The wetland habitat associated with some of these springs do not correspond to any habitats described in the MCV classification system; however, because these areas are dominated by hydrophytic species, they are considered coastal wetlands and also meet the definition of ESHA. Although all of the springs and associated drainages at the DCPP site have been subject to impacts from cattle grazing, these unique habitats provide perennial water and highly valuable habitat for various common and special-status wildlife species.

Upland Vegetation Communities

Upland communities comprise approximately 576 acres and characterize the majority of vegetation types in the Project area. They occur within all sites. In contrast to riparian and wetland plant species that are adapted to seasonally flooded or periodically saturated soils, upland plant communities consist of plant species that are adapted to drier conditions and typically require only seasonal precipitation to obtain adequate water resources for growth and reproduction. Away from these water sources and onto adjacent slopes at the DCPP and PBR sites, the vegetation transitions to upland vegetation dominated by various shrublands and grasslands.

Wild Oats and Annual Brome Grassland (*Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance). This non-native annual grassland community comprises approximately 332 acres and is present at the DCPP and PBR sites. It is the most widely occurring community at the DCPP site where it forms an intermittent to continuous cover on the steep rocky slopes and coastal terraces. Locally dominant species vary throughout the site include wild oat (*Avena fatua*), slender wild oat (*A. barbata*), ripgut grass (*Bromus diandrus*), false brome (*Brachypodium distachyon*), rye grass (*Festuca perennis*), and wall barley (*Hordeum murinum*). Non-native, invasive species, such as Italian thistle (*Carduus pycnocephalus*), Russian thistle (*Salsola tragus*), and black mustard (*Brassica nigra*), have established in much of these grasslands, occasionally becoming dominant.

At the PBR site, this community primarily occurs within remnant woodland and scrub habitats where it is dominated by ripgut grass with patches of rattail sixweeks grass (*Festuca myuros*), red brome (*B. rubens*), purple needle grass (*Stipa pulchra*), and wall barley commonly occurring.

This community most closely corresponds with *Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance (wild oats and annual brome grasslands) in the MCV classification system (Sawyer et al., 2009). Although this community may provide some habitat for nesting birds, small mammals, and other wildlife, the ruderal nature and high degree of infestation by non-native vegetation limits habitat suitability for most common and special-status wildlife species.

Needlegrass – Melic Grass Grassland (*Nassella* (=*Stipa*) spp. – *Melica* spp. Herbaceous Alliance). Needlegrass – melic grass grassland comprises approximately 3.7 acres at the DCPP site where it is limited to fragmented patches within openings and along edges of various shrubland habitats in the northeast portion of the site. It is characterized by a 20 to 60 percent herbaceous layer cover of purple needle grass with non-native grasses comprising the remainder of the cover. Little California melic (*Melica imperfecta*) also occurs in some patches. The locations where this community is present are somewhat protected from cattle grazing due to surrounding shrub habitats that limit access.

This community most closely corresponds with *Nassella* [=*Stipa*] spp. – *Melica* spp. Herbaceous Alliance (needle grass – melic grass grassland) in the MCV classification system (Sawyer et al., 2009). It may provide valuable habitat for nesting birds, reptiles, small mammals, and other wildlife.

Coyote Brush Scrub (*Baccharis pilularis* Shrubland Alliance). Coyote brush scrub comprises approximately 39.2 acres collectively at the DCPP, PBR, and SMVR-SB sites. This community dominates the coastal terrace in the northern portion of the DCPP site where a continuous shrub canopy ranging from nearly monotypic stands of coyote brush to highly diverse shrubland associations is established along the immediate bluff edge. Other shrubs are present at variable cover including California sagebrush, California coffee berry, black sage (*Salvia mellifera*), and western poison oak. Highly disturbed patches of coyote brush also occur along the margins of roads and developed portions of the DCPP site where weed abatement and vegetation management activities are routinely conducted. These patches also support a composition of ruderal vegetation, including fennel (*Foeniculum vulgare*), tocalote (*Centaurea melitensis*), jubata grass (*Cortaderia jubata*), and various non-native grasses. Hoffman's sanicle (*Sanicula hoffmannii*), designated as a CRPR 4.3 species, was observed along a maintained path within this habitat just north of Diablo Creek (PG&E, 2022a). Additionally, this community supports a few individuals of San Diego viguiera (*Bahiopsis laciniata*), designated as a CNPS California Rare Plant Rank (CRPR) 4.3 species, along the northern portion of the coastal terrace of the DCPP site (PG&E, 2020a). However, the typical range for this species is limited to Ventura County south into the San Diego/Baja region. Given the current range limits for this species, it is unlikely that this is a natural occurrence.

Coyote brush scrub forms an open shrub habitat in scattered patches along the western and northern edges of the PBR site and along the southwest and northeast corners of the SMVR-SB site. At the PBR site, coyote brush is dominant, with California coffee berry and toyon (*Heteromeles arbutifolia*) present at lower cover densities. Ornamental species, including acacia (*Acacia*

sp.), pine (*Pinus* sp.), and gum (*Eucalyptus* spp.) also occur. Additionally, a small population of black-flowered figwort (*Scrophularia atrata*), a CRPR 1B.2 species, was documented within this community along the northern edge of the PBR site during 2020 surveys (PG&E, 2020a).

This community most closely corresponds with *Baccharis pilularis* Shrubland Alliance (coyote brush scrub) in the MCV classification system (Sawyer et al., 2009). It provides suitable habitat for nesting birds, reptiles, small mammals, and other wildlife.

Coastal Bluff Scrub (*Baccharis pilularis / Dudleya farinosa* Association). Coastal bluff scrub comprises approximately 6.7 acres along the coastal terrace bordering the immediate bluff edge at the DCPP site. It is concentrated on the rocky, exposed bluffs that jut out into the ocean and around the edge of the developed portion of the terrace. The short-statured shrub layer forms an intermittent to continuous canopy that is characteristically wind-pruned due to prevailing onshore, salt-laden winds. Woolly seaside sunflower (*Eriophyllum staechadifolium*) and coastal goldenbush (*Isocoma menziesii*) form the dominant shrub cover in most areas with coyote brush common at variable cover. The canopy is interspersed with an herbaceous layer of annual and perennial herbs that compose a nearly continuous cover dominated by seaside daisy (*Erigeron glaucus*) and a mixed population of dudleya including sand lettuce (*Dudleya caespitosa*), Palmer's dudleya (*D. palmeri*), and lance-leaved dudleya (*D. lanceolata*). Robust populations of Nuttall's milk-vetch (*Astragalus nuttallii*) are also present along the coastal bluff edge, often in areas that were inaccessible during surveys due to the proximity to the cliff edge (PG&E, 2020a). Due to nearby occurrences in similar habitat just north of the site, it is assumed that *Astragalus nuttallii* var. *nuttallii*, a CRPR 4.2 species, is present within integrated populations of the more common *A. n.* var. *virgatus*. Beach saltbush (*Atriplex leucophylla*) is also characteristically present in occasionally dense patches and annual grasses are common throughout the community.

This association does not correspond to any within the MCV classification system. Therefore, it should be treated as *Baccharis pilularis/Dudleya farinosa* Provisional Shrubland Association of the *Baccharis pilularis* Shrubland Alliance (coyote brush scrub) in the MCV classification system. Because it is considered a Provisional Shrubland Association, it would be defined as a Sensitive Vegetation Community by CDFW. Since this community occurs entirely within the Coastal Zone and supports a special-status botanical species, it meets the definition of an ESHA. Coastal bluff scrub provides valuable habitat for nesting birds, reptiles, small mammals, and other wildlife.

California Sagebrush Scrub (*Artemisia californica* Shrubland Alliance). California sagebrush scrub comprises approximately 101 acres and occurs along the coastal terrace in the southern portion of the DCPP site. It is also present on scattered slopes and within canyons throughout the site. It is characterized by a dominant or co-dominant shrub cover of California sagebrush. Coyote brush, California coffee berry, western poison oak, black sage, and bush monkeyflower (*Diplacus aurantiacus*) also occur and range in cover from uncommon in a stand to co-dominant. Rocky outcrops are common within this and adjacent habitats, particularly on the steep slopes overlooking the coastal terrace. The herbaceous understory is variable, from sparse cover composed of annual grasses to nearly continuous cover of annual and perennial grasses and forbs, including purple needle grass and little California melic. Hoffman's sanicle (*Sanicula hoffmannii*), designated as a CRPR 4.3 species, was found abundantly in some stands of this community (PG&E, 2020a).

This community most closely corresponds with *Artemisia californica* Shrubland Alliance (California sagebrush scrub) in the MCV classification system. Additionally, stands of this community that support Hoffman's sanicle within the Coastal Zone meet the definition of ESHA. It provides valuable habitat for nesting birds, reptiles, small mammals, and other wildlife.

California Coffeeberry Scrub (*Frangula californica* Shrubland Association). California coffeeberry scrub comprises approximately 1.5 acres and is limited to small patches on slopes above the developed portions of the DCPP site. It is dominated by California coffeeberry with coyote brush and western poison oak characteristically present. The understory is sparse, comprised mostly of annual grasses and thistles from adjacent and disturbed grasslands.

This association does not correspond to any descriptions within the MCV classification system. Therefore, it should be treated as *Frangula californica* ssp. *Californica* Provisional Shrubland Association within the *Frangula californica – Rhododendron occidentale – Salix breweri* Shrubland Alliance in the MCV classification system. Because it is considered a Provisional Association, it would be defined as a Sensitive Vegetation Community by CDFW. It provides valuable habitat for nesting birds, reptiles, small mammals, and other wildlife.

Bush Monkeyflower Scrub (*Diplacus aurantiacus* Shrubland Alliance). Bush monkeyflower scrub comprises approximately 18.9 acres and occurs in wide swaths at the edges of adjacent shrubland communities on the north-facing slopes above upper Diablo Creek at the DCPP site. It is an early successional habitat, regenerating from past vegetation clearing practices. Patches of this community are at different stages of regeneration, based on variable disturbance history. The younger stands form an intermittent shrub canopy dominated entirely by bush monkeyflower with annual grasses and forbs composing the herbaceous layer. The understory is irregular, occasionally with a co-dominant cover of wood fern (*Dryopteris arguta*) and western poison oak. In some areas, a robust understory is regenerating and is composed of southern hedge nettle (*Stachys bullata*), California man-root (*Marah fabacea*), Italian thistle (*Carduus pycnocephalus*), purple needle grass, and little California melic. More mature stands onsite intergrade with California sagebrush, forming a mixed and well-developed shrub canopy. Hoffman's sanicle, designated as a CRPR 4.3 species, was also identified in association with this community (PG&E, 2020a).

This community most closely corresponds with *Diplacus aurantiacus* Shrubland Alliance (bush monkeyflower scrub) in the MCV classification system and is classified as a Sensitive Vegetation Community by CDFW. It may provide valuable habitat for nesting birds, reptiles, small mammals, and other wildlife.

Chamise – Black Sage Chaparral (*Adenostoma fasciculatum – Salvia mellifera* Shrubland Alliance). This mature chaparral community is limited to approximately 2.6 acres along an east-facing slope in the northwest corner of the DCPP site where it is provided moderate protection from prevailing onshore winds. It is characterized by a mostly continuous shrub canopy consisting of co-dominant chamise (*Adenostoma fasciculatum*) and black sage. Rocky outcrops are common throughout this community, forming sparsely vegetated openings in the shrub cover that also includes California buckwheat (*Eriogonum fasciculatum*), buck brush (*Ceanothus cuneatus* var. *ramulosus*), and California sagebrush. The understory is sparse to absent.

This community most closely corresponds with *Adenostoma fasciculatum – Salvia mellifera* Shrubland Alliance in the MCV classification system. It provides valuable habitat for nesting birds, reptiles, small mammals, and other wildlife.

Buck Brush Chaparral (*Ceanothus cuneatus* Shrubland Alliance). Buck brush chaparral comprises approximately 16.9 acres and occurs on the steep slopes and ridgelines along the northern edge of the DCPP site where it is exposed to prevailing onshore winds. Shrubs along the ridgeline are characteristically stunted to a height of less than two feet. Buck brush and black sage are co-dominant and generally form a continuous shrub cover canopy with California sagebrush and spiny redberry (*Rhamnus crocea*) present at low densities. The understory is sparse to absent.

This community most closely corresponds with *Ceanothus cuneatus* Shrubland Alliance (buck brush chaparral) in the MCV classification system. It provides valuable habitat for nesting birds, reptiles, small mammals, and other wildlife.

Toyon Chaparral (H*eteromeles arbutifolia* Shrubland Association. Toyon chaparral comprises approximately 10.3 acres and occurs along the mostly north-facing slope above upper Diablo Creek at the DCPP site. It is composed of a continuous shrub canopy dominated by toyon (*Heteromeles arbutifolia*) with a robust understory largely dominated by western poison oak. Emergent trees are characteristically present and include California bay (*Umbellularia californica*) and coast live oak (*Quercus agrifolia*). Toyon chaparral forms transitional habitats with other shrublands and coast live oak woodlands, often resulting in a variable mixed shrub canopy that includes California coffee berry, coyote brush, and California sagebrush.

This community most closely corresponds with *Heteromeles arbutifolia* Shrubland Association (toyon chaparral) of the *Prunus ilicifolia-Heteromeles arbutifolia-Ceanothus spinosus* Shrubland Alliance in the MCV classification system. It provides valuable habitat for nesting birds, reptiles, small mammals, and other wildlife.

Coast Live Oak Woodland and Forest (*Quercus agrifolia* Forest and Woodland Alliance). Coast live oak woodland and forest comprises approximately 29.9 acres and is present in the upper reaches of Diablo Creek and along a small tributary located north of the switchyard at the DCPP site. Remnant patches of coast live oak woodland also occur in disjunct patches in the western and northern portions of the PBR site.

The location above Diablo Creek intergrades with a wide swath of relatively undisturbed riparian woodland dominated by coast live oak with California bay and big-leaf maple (*Acer macrophyllum*) also occurring. The understory is open with intermittent to occasionally continuous cover dominated by western poison oak and California coffee berry. Herbaceous vegetation along the edges and bottom of the creek is occasionally dense, dominated by western water hemlock, watercress, giant horsetail, and hoary nettle (*Urtica dioica* spp. *Holosericea*). The canopy associated with the small tributary to Diablo Creek is dominated by coast live oak with occasional California bay. The understory at this location is open with intermittent cover of western poison oak. Additionally, Hoffman's sanicle, designated as a CRPR 4.3 species, was documented throughout the understory along the small tributary drainage (PG&E, 2020a).

Remnant coast live oak woodlands at the PBR site are generally disturbed, forming an intermittent to continuous tree canopy dominated by coast live oak. The shrub layer is composed of

intermittent occurrences of toyon and California coffee berry while the understory consists of sparse annual grasses. Much of this community is bordered and partially invaded by ornamental species, including acacia, pine, Monterey cypress (*Hesperocyparis macrocarpa*), and gum (*Eucalyptus* spp.) trees at the site.

This community most closely corresponds with *Quercus agrifolia* Forest and Woodland Alliance (coast live oak woodland and forest) in the MCV classification system. Individual coast live oak trees and coast live oak woodlands are regulated under California Public Resource Code 21083.4, the County Inland Land Use Ordinance (Title 22, Section 22.52.100), and the County Coastal Zone Land Use Ordinance (Title 23, Section 23.05.062). This community provides valuable habitat for nesting birds, reptiles, mammals, and other wildlife.

Ice Plant Mats (*Mesembryanthemum* spp. – *Carpobrotus* spp. Herbaceous Semi-Natural Alliance). Ice plant mats comprise approximately 2.5 acres and form dense, monotypic surface cover at the edges of developed portions of the PBR site. This community is dominated by sea fig (*Carpobrotus chilensis*) and freeway ice plant (*C. edulis*) with occasional annual grasses and emergent shrubs, including coyote brush and California coffee berry.

This community most closely corresponds with *Mesembryanthemum* spp. – *Carpobrotus* spp. Herbaceous Semi-Natural Alliance (ice plant mats) in the MCV classification system.

Eucalyptus groves (*Eucalyptus* [*globulus*, *camaldulensis*] Semi-Natural Woodland Stands). Approximately 6.8 acres of eucalyptus groves occur south of the rail line in the western portion of the SMVR-SB railyard. This community is characterized by a dominant canopy of blue gum (*Eucalyptus globulus*) with an understory consisting of annual grasses and forbs, including ripgut brome and oxalis (*Oxalis pes-caprae*).

This community most closely corresponds with *Eucalyptus* spp. – *Ailanthus altissima* – *Robinia pseudoacacia* Woodland Semi-Natural Alliance in the MCV classification system. It may provide suitable habitat for roosting monarch butterfly and nesting raptors.

Other Land Cover Types

Ruderal / Disturbed. Ruderal vegetation communities comprise approximately 14 acres collectively and are present at each of the sites in the Project Area. These communities consist of fragmented strips and patches of vegetation and are subject to regular disturbance in the form of weed abatement (e.g., mowing, herbicide application) and vegetation suppression. They are characterized by remnant stands of scrub habitat with a significant component of non-native grasses and forbs, including fennel, tocalote, Russian thistle, red brome, charlock (*Sinapis* sp.), and crown daisy (*Glebionis coronaria*).

Although areas of ruderal vegetation do not correspond to a natural vegetation community under the MCV classification system, they may provide marginally suitable habitat for wildlife foraging and cover.

Developed. There are developed areas at each of the sites in the Project Area, comprising a total of approximately 171.62 acres. These include buildings and infrastructure, parking lots, roads, trails, and storage yards. This cover type also includes areas that are devoid of vegetation or

support scattered ornamental species or low densities of weeds due to continual disturbance by vehicles, pedestrians, or other anthropogenic means.

Noxious and Invasive Species

Per Executive Order 13112 Section 1, an invasive species is a species that is: (1) non-native (or alien) to the ecosystem under consideration; and (2) whose introduction causes or likely causes economic or environmental harm or harm to human health (US Department of Agriculture [USDA], 2022). Invasive species can be plants, animals, or other living organisms (e.g., microbes).

According to the California Invasive Plant Council (CAL-IPC), invasive plants are not native to an environment, and once introduced, establish quickly, reproduce, and spread, causing harm to the environment, economy, or human health (CAL-IPC, 2022a). Numerous nonnative plant species were identified in the Project area during 2020 through 2022 surveys. Some of these occur in well-established populations and appear to be associated with historic disturbance. A total of 57 of these nonnative plants are considered noxious or invasive weeds by the CAL-IPC (CAL-IPC, 2022b). Three of the noxious and invasive weeds observed in the Project area have been designated as a "high" threat level by CAL-IPC. Species with this designation have severe ecological impacts and moderate to high rates of dispersal and establishment. These include jubatagrass (*Cortaderia jubata*) observed at the DCPP site, highway iceplant (*Carpobrotus edulis*) and perennial pepperweed (*Lepidium latifolium*) observed at the SMVR-SB site. CAL-IPC considers several additional noxious and invasive weeds occurring in the Project area as a "moderate" threat to other plant species. Appendix E1 lists the noxious and invasive plant species that were identified in the Project area along with the current threat levels as defined by CAL-IPC.

Although not known from the Project area, New Zealand mudsnails (*Potamopyrgus antipodarum*), quagga mussel (*Dreissena rostriformis bugensis*), and zebra mussel (*Dreissena polymorpha*) are known to occur in California freshwaters and pose a risk to native species. For example, New Zealand mudsnails can consume up to half of the food resources in a waterway and have been linked to reduced populations of aquatic insects important to native fish. Further, quagga and zebra mussels have no natural predators in California and have tremendous reproductive potential. As a result, regulatory agencies, such as USFWS and CDFW, have implemented various programs to contain the distribution and spread of these species.

Common Wildlife

This section describes common terrestrial wildlife species that were documented during 2020 through 2022 surveys or have the potential to occur in the Project area (PG&E, 2020a; PG&E, 2021a). This section also discusses some species that have been designated as "Special Animals" or "Watch List" by CDFW. Although these species are tracked by CDFW, they are not afforded the same regulatory protections as special-status wildlife, which are discussed further below.

The Project area supports a wide range of vegetation communities associated with natural lands, riparian habitat, and disturbed and developed areas. The distribution of wildlife in the Project area varies depending on location, vegetation community, and disturbance level. The habitats with the greatest intrinsic value for terrestrial wildlife are provided within the riparian vegetation communities associated with Diablo Creek and smaller unnamed drainage features. These habitats contribute to the diversity and abundance of wildlife in the region as they provide for

permanent and migratory residency, foraging, and breeding behaviors. The creek bed and adjacent uplands provide breeding and refugia for a number of wildlife species. However, wildlife usage in the Project area is also influenced by former cattle grazing practices and ongoing human activity associated with operations at the DCPP site and railyard sites.

Invertebrates. As in all ecological systems, invertebrates play a crucial role in multiple biological processes. They serve as the primary or secondary food source to a variety of fish, amphibian, reptile, bird, and mammal consumers; they provide pollination vectors for numerous plant species; they act as efficient components in controlling pest populations; and they support naturally occurring maintenance of an area by consuming detritus and contributing to necessary soil nutrients.

Vegetation communities in the Project area provide a suite of habitat and microhabitat conditions for terrestrial and aquatic insects, mollusks, and other invertebrates. Focused insect surveys have not been completed for the Proposed Project; however, general habitat assessments and wildlife surveys performed from 2020 through 2022 detected a variety of insects and other invertebrates, including banana slug (*Ariolimax* sp.), garden snail (*Cornu aspersum*), American dog tick (*Dermacentor variabilis*), western honey bee (*Apis mellifera*), coyote brush leaf beetle (*Trirhabda flavolimbata*), armored stink beetle (*Eleodes armata*), and Sara orangetip (*Anthocharis sara*) (PG&E, 2020a; 2021a). Other common insect species most often identified in the general region include variable checkerspot (*Euphydryas chalcedona*), painted lady (*Vanessa cardui*), western tiger swallowtail (*Papilio rutulus*), yellow-faced bumble bee (*Bombus vosnesenskii*), Pacific velvet ant (*Dasymutilla aureola*), and Lompoc grasshopper, a CDFW Special Animal (iNaturalist, 2022). Additionally, numerous shoulderband snails (*Helminthoglypta* spp.) and decollate snails (*Rumina* spp.) were observed at several locations at the DCPP site during 2022 aquatic assessments, including Diablo Creek, the Marina, oak woodlands, and grassy slopes near the existing Firing Range. Several additional common terrestrial mollusks are known to occur in coastal San Luis Obispo County. These include garden snail (*Cornu aspersum*), rustic ambersnail (*Succinea rusticana*), California lancetooth snail (*Haplotrema minimum*), and greenhouse slug (*Milax gigates*), among many others (iNaturalist, 2022).

Fishes. Because fish movement throughout upstream portions of Diablo Creek are inhibited by various barriers, common fish in the portion at the DCPP site appears to be limited to non-native species, such as mosquito fish (*Gambusia affinis*) and prickly sculpin (*Cottus asper*). Other common fish species known to occur in nearby streams include Sacramento sucker (*Catostomus occidentalis*) and speckled dace (*Rhinichthys osculus*).

Amphibians. Amphibians often require a source of standing or flowing water to complete their life cycles. For many species, breeding takes place in aquatic habitats such as streams, creeks, and pools. Generally, the larval and juvenile stages occur within the same aquatic habitat. Although some amphibious species may remain within or adjacent to standing or flowing water for their entire lives, other species may spend significant portions of their adult lives in upland habitats surrounding their aquatic breeding sites. Some of these species may undertake long dispersal journeys to find new breeding sites. During the non-breeding season, amphibians in upland habitats will take refuge in underground burrows or under logs, rock piles, or leaf litter.

Common amphibians that were identified during 2020 through 2022 surveys were limited to observations near riparian habitats at the DCPP and PBR sites. These included Sierran tree frog (*Pseudacris sierra*) and California toad (*Anaxyrus boreas halophilus*) (PG&E, 2020a). Additional common amphibians that are known to occur in the general region include black-bellied slender salamander (*Batrachoseps nigriventris*), arboreal salamander (*Aneides lugubris*), and Baja California tree frog (*Pseudacris hypochondriaca*) (iNaturalist, 2022).

Reptiles. The number and type of reptile species that may occur in a given area is related to a number of biotic and abiotic features. These include the diversity of plant communities, substrate, soil type, and presence of refugia such as rock piles, boulders, and native debris. These represent crucial factors in the survival and reproductive success of various reptile species. Most reptiles, even if present in an area, are difficult to detect because they are cryptic, and various life history characteristics (i.e., foraging and thermoregulatory behavior) limit their ability to be observed during most surveys. Many species are active only within relatively narrow thermal limits, avoiding hot and cold conditions, and most take refuge in microhabitats that are not directly visible to the casual observer, such as rodent burrows, crevices, under rocks and branches, and in dense vegetation where they are protected from unsuitable environmental conditions and predators. In some cases, they are observed when flushed from their refugia. Although most reptile species are found in various upland habitats, there are many other aquatic and semi-aquatic species that can be found within and adjacent to streams, creeks, and other riparian features. These species may also be found in upland habitats when hibernating, seeking foraging opportunities, or dispersing to another aquatic habitat.

A total of six reptile species were observed at the DCPP and PBR sites during surveys conducted by Terra Verde from 2020 through 2022 (PG&E, 2020a; 2021a). These include Coast Range fence lizard (*Sceloporus occidentalis bocourtii*), woodland alligator lizard (*Elgaria multicarinata webbii*), San Diego gopher snake (*Pituophis catenifer annectens*), western yellow-bellied racer (*Coluber constrictor mormon*), California striped racer (*C. lateralis lateralis*), and northern pacific rattlesnake (*Crotalus oreganus oreganus*). Although no reptiles were observed at the SMVR-SB railyard site, other common reptiles known from the general area include California kingsnake (*Lampropeltis californiae*), ringneck snake (*Diadophis punctatus*), common garter snake (*Thamnophis sirtalis*), western whiptail (*Aspidoscelis tigris*), and common side-blotched lizard (*Uta stansburiana*) (iNaturalist, 2022).

Birds. Birds were the most commonly observed species in the Project area during surveys. The diversity of birds in the Project area is a function of the various riparian and upland vegetation communities that provide habitat for different groups of birds. For example, common shorebirds and aquatic species that were identified, such as western gull (*Larus occidentalis*), Brandt's cormorant (*Phalacrocorax penicillatus*), and pigeon guillemot (*Cepphus columba*), are closely associated with shoreline and sea cliff habitats bordering the DCPP site. Other common shorebirds and aquatic species that are routinely observed in the general region include marbled godwit (*Limosa fedoa*), willet (*Tringa semipalmata*), double-crested cormorant (*Phalacrocorax auratus*), and surf scoter (*Melanitta perspicillata*) (iNaturalist, 2022). Although briefly mentioned here, seabirds are fully addressed in Section 4.4 (*Biological Resources – Marine*).

Many bird species are closely associated with or dependent upon riparian vegetation associated with Diablo Creek and other drainage features in or near the Project area. Riparian systems are frequently considered one of the most productive forms of wildlife habitat in North America and many bird species are wholly, or at least partially, dependent on riparian plant communities for breeding and foraging (Motroni, 1979). Some of the songbirds commonly observed in these habitats include yellow-rumped warbler (*Setophaga coronata*), oak titmouse (*Baeolophus inornatus*), pacific-slope flycatcher (*Empidonax difficilis*), among many others.

Numerous avian species also utilize the various upland habitats in the Project area for breeding, migration, and foraging. Some of the common species that are typically associated with these habitats and were observed by Terra Verde during 2020 through 2022 surveys include California quail (*Callipepla californica*), California scrub jay (*Aphelocoma californica*), Nuttall's woodpecker (*Dryobates nuttalli*), northern flicker (*Colaptes auratus*), California towhee (*Melozone crissalis*), black phoebe (*Sayornis nigricans*), and white-crowned sparrow (*Zonotrichia leucophrys*) (PG&E, 2020a; 2021a).

The Project area provides various nesting, roosting, and foraging opportunities for common raptor species, including red-tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), and CDFW Special Animal and Watchlist species, such as Cooper's hawk (*Accipiter cooperii*) and osprey (*Pandion haliaetus*).

Mammals. The distribution of mammals in the Project area is associated with the presence of such factors as access to water, topographical and structural components (i.e., rock piles, vegetation, stream terraces). Upland habitats in the Project area, such as oak woodlands, shrublands, and grasslands, provide shelter and burrowing opportunities for arboreal and fossorial mammals. Similarly, riparian features in or adjacent to the Project area, such as Diablo Creek or Pismo Creek, provide breeding and foraging habitat along with local movement corridors for a variety of mammals.

Terrestrial mammals that were observed during surveys ranged from small species, such as California ground squirrel (*Otospermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*) to mid-sized species, including striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), and bobcat (*Lynx rufus*). Larger species, such as mule deer (*Odocoileus hemionus*) and coyote (*Canis latrans*) were also identified (PG&E, 2020a; PG&E, 2021a).

Although not detected during surveys, many common bat species, such as Mexican free-tailed bat (*Tadarida brasiliensis*), California myotis (*Myotis californicus*), and hoary bat (*Lasiurus cinereus*), a CDFW Special Animal, are known to occur from the general area and may roost in existing structures and adjacent habitats (iNaturalist, 2022).

Special Habitat Designations

Sensitive Natural Communities. Sensitive natural communities have been previously defined by CDFW as "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." More recently CDFW stated that sensitive natural communities with state ranks of S1–S3 (S1=critically imperiled; S2=imperiled; S3=vulnerable) should be addressed in the environmental review processes of CEQA and its equivalents (CDFW, 2022c). "Provisional Alliances" are types for which there are fewer than 10

stands sampled, but which are expected to be more widespread. A question mark (?) denotes an inexact numeric rank because there are insufficient samples over the full expected range of the type, but existing information points to this ranking.

The CNDDB search identified records of nine sensitive natural communities within the 10-mile search for the Project area (CDFW, 2022a). These include central dune scrub, central foredunes, central maritime chaparral, coastal and valley freshwater marsh, northern interior cypress forest, serpentine bunchgrass, valley needlegrass grassland, coastal brackish marsh, and northern coastal salt marsh. Central dune scrub, central foredunes, coastal brackish marsh, and coastal saltmarsh are associated with coastal dune or estuarine habitat, none of which occur within the terrestrial habitats of the Project area.

Three vegetation communities, including coastal bluff scrub (Provisional), California coffeeberry scrub (Provisional), and bush monkeyflower scrub (S3?), that occur on the most recent CDFW list of California sensitive natural communities were mapped by PG&E at the DCPP site (CDFW, 2022c).

Sensitive Resource Areas (SRAs). The SRA combining designation (Section 23.07.160) is applied by the Official Maps of the San Luis Obispo County Code Land Use Element to identify areas with special environmental qualities or areas containing unique or endangered vegetation or habitat resources. The purpose of the SRA combining designation is to require that proposed uses be designed with consideration of the identified sensitive resources and the need for their protection. For any land use permit application within an SRA, the County can approve the permit if the following required findings can be met:

- The development will not create significant adverse effects on the natural features of the site or vicinity that were the basis for the SRA designation and will preserve and protect such features through site design.
- Natural features and topography have been considered in the design and siting of all proposed physical improvements.
- Any proposed clearing of topsoil, trees, or other features is the minimum necessary to achieve safe and convenient access and siting of proposed structures and will not create significant adverse effects on the identified sensitive resource.
- The soil and subsoil conditions are suitable for any proposed excavation; site preparation and drainage improvements have been designed to prevent soil erosion and sedimentation of streams through undue surface runoff.

Environmentally Sensitive Habitat Areas (ESHAs). Section 30107.5 of the California Coastal Act of 1976 defines ESHAs as "A type of Sensitive Resource 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 development". The characteristics of an ESHA are comprised of three important elements. First, a geographic area can be designated as an ESHA either because of the presence of individual species of plants or animals or because of the presence of a particular habitat. Second, the

species or habitat must be either rare or especially valuable. Third, the area must be vulnerable and exposed to human disturbance and degradation.

The SRA combining designation of the San Luis Obispo County Code provides additional requirements for SRAs that are located within the Coastal Zone, otherwise defined as ESHAs. Section 23.07.170 (Environmentally Sensitive Habitats) of the code includes the following ESHA descriptions:

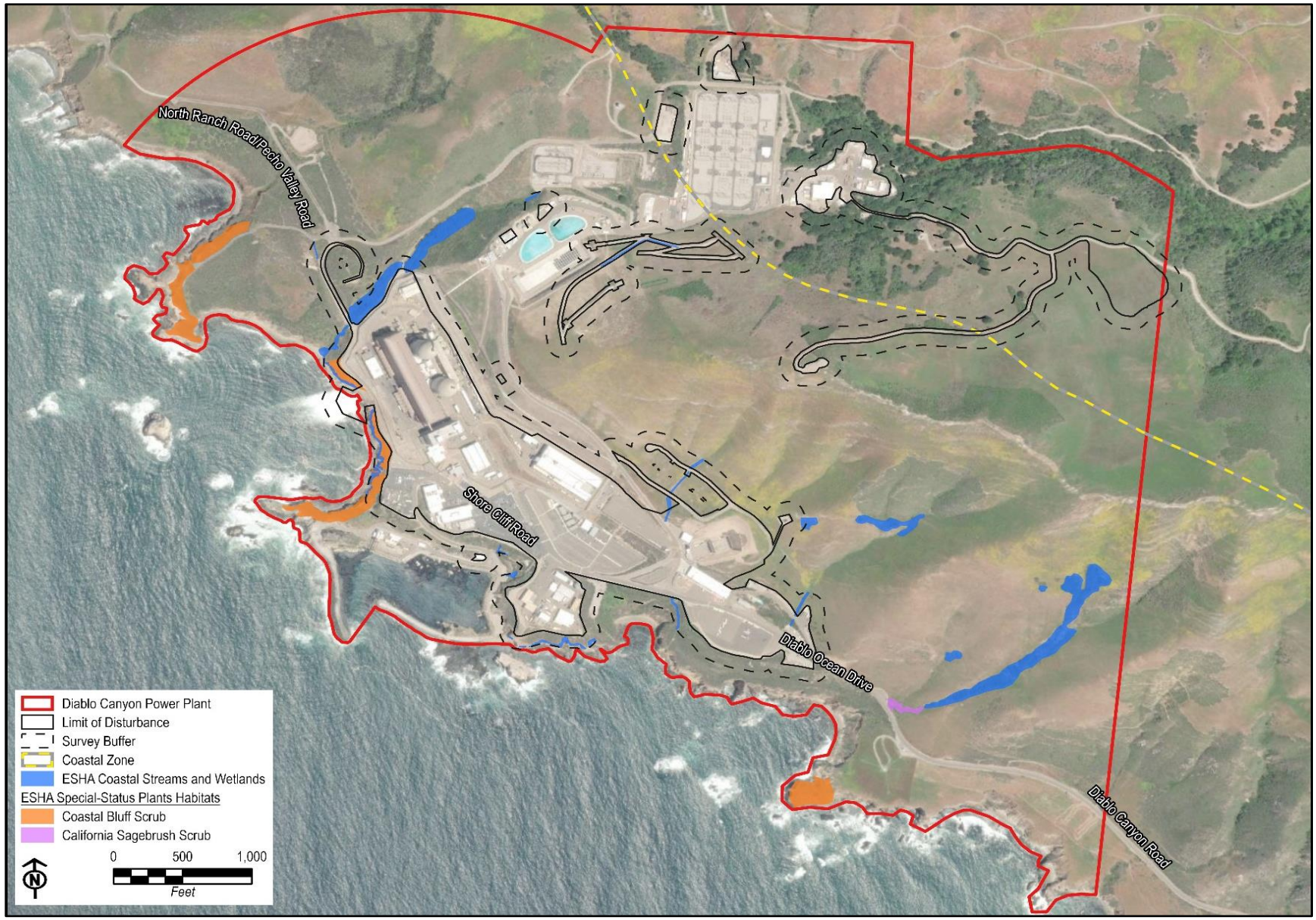
- Mapped ESHA – Includes wetlands, coastal streams, and riparian vegetation, terrestrial and marine habitats and are mapped as Land Use Element combining designations.
- Unmapped ESHA – Includes, but not limited to, known wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats that may not be mapped as Land Use Element combining designations. The existence of an Unmapped ESHA is determined by the County at or before the time of application acceptance and shall be based on the best available information. Unmapped ESHA includes but is not limited to:
  - Areas containing features or natural resources when identified by the County or County approved expert as having equivalent characteristics and natural function as mapped other environmental sensitive habitat areas.
  - Areas previously known to the County from environmental experts, documents, or recognized studies as containing ESHA resources.
  - Other areas commonly known as habitat for species determined to be threatened, endangered, or otherwise needing protection.

Based on this definition, all drainages and wetlands identified within the Coastal Zone as well as some terrestrial habitats and vegetation communities are considered ESHAs. For this analysis unmapped ESHAs have been categorized as either Coastal Stream and Wetlands or Special-Status Plant Habitat.

Most of the DCPP site and small corner of the PBR site are located within the Coastal Zone and are therefore subject to ESHA requirements. Prior to field surveys, PG&E reviewed County of San Luis Obispo datasets for Wetlands and Riparian Vegetation Combining Designations and Environmentally Sensitive Habitats. Based on this review, two drainages that are designated as coastal streams in the datasets were identified as Mapped ESHAs within the DCPP site. These include Diablo Creek and an unnamed drainage in the southeast corner of the site (PG&E, 2020a).

PG&E identified two vegetation communities, including arroyo willow thickets and hardstem and California bulrush marshes, that were defined as Coastal Stream and Wetlands Unmapped ESHAs at the DCPP site due to the presence of hydrophytic vegetation. Additionally, portions of two vegetation communities were identified as Special-Status Plant Habitat Unmapped ESHAs at the DCPP site due to the presence of Hoffman's sanicle and ocean bluff milk-vetch in these areas. These include portions of coastal bluff scrub and California sagebrush scrub (see Figure 4.3-4 and Table 4.3-3).

Figure 4.3-4. DCPP Environmentally Sensitive Habitat Areas



Source: Esri, 2022; Terra Verde, 2022.

Table 4.3-3. ESHAs Documented within the DCPP Site

ESHA Category	DCPP Site (acres)	100-Foot Setback (acres)	Limits of Disturbance (acres)
Coastal Streams and Wetlands	7.94	1.97	0.06
Special-Status Plant Habitat	7.02	1.51	0.14
Total	**14.96**	**3.48**	**0.20**

Critical Habitat. No designated or proposed critical habitat for listed species occurs in the Project area. Although not currently listed as critical habitat, NMFS considers Diablo Canyon, including portions located within the DCPP site, as being a "historical steelhead bearing watershed", which defines watersheds that have been historically occupied by populations of steelhead but now have barriers that block migration to portions of the watershed (NMFS, 2013). Designated critical habitat for tidewater goby (*Eucyclogobius newberryi*) occurs along San Luis Obispo Creek south of Highway 101 and less than one-half mile downstream of the PBR site.

Special-Status Species

This section provides information on special-status plants and animals observed within the Project area or with a potential to be present. The specific habitat requirements and the locations of known occurrences of each special-status species were the principal criteria used for inclusion in the lists of special-status species potentially occurring within the Project area. For this document, special-status species include the following designations:

- Rare, threatened, or endangered by CDFW and/or USFWS, and protected under Federal Endangered Species Act (FESA) and/or California Endangered Species Act (CESA) (FE – Federally Endangered; FT – Federally Threatened; SE – State Endangered; ST – State Threatened)
- Candidate species being considered or proposed for listing under these same acts (FC – Federal Candidate; SC – State Candidate)
- Fully Protected by the California Fish and Game Code, Sections 3511, 4700, 5050, or 5515 (FP – State Fully Protected)
- Considered Species of Special Concern by the CDFW (SSC – Species of Special Concern)
- Designated as CRPR 1, 2, 3, or 4 plant species
- Are of expressed concern to resource/regulatory agencies or local jurisdictions

Special-Status Terrestrial Plant Species

Although no federal or State listed plant species were identified during botanical surveys, the DCPP and PBR sites are within the current ranges for marsh sandwort (*Arenaria paludicola*) (FE, SE, CRPR List 1B.1), La Graciosa thistle (*Cirsium scariosum* var. *loncholepis*) (FE, ST, CRPR List 1B.1), Pismo clarkia (*Clarkia speciosa* ssp. *immaculata*) (FE, SR, CRPR List 1B.2), Gambel's water cress (*Nasturtium gambelii*) (FE, ST, CRPR List 1B.1), and adobe sanicle (*Sanicula maritima*) (SR, CRPR List 1B.1). However, the sites lack suitable habitat for these species, and they are not

expected to occur. Due to a lack of suitable habitat, federal or State listed plants are also not expected to be present at the SMVR-SB site.

Four non-listed special-status terrestrial plant species were either observed during 2020 through 2022 botanical surveys or are assumed to be present in the Project area (PG&E, 2020a; 2021a; 2022a; 2022b) (see Figure 4.3-5). These include Hoffman's sanicle (*Sanicula hoffmannii*) and San Diego County viguiera (*Bahiopsis laciniata*), both CRPR List 4.3 species, which were observed at the DCPP site. However, the San Diego viguiera occurrence is considered anomalous and was likely artificially dispersed at the DCPP site. As such, it is not afforded protection under CEQA and will no longer be discussed in this document. Ocean bluff milk-vetch (*Astragalus nuttallii* var. *nuttallii*), a CRPR List 4.2 species, is assumed to be present based upon the proximity of a known population located immediately north of the DCPP site. Black-flowered figwort (*Scrophularia atrata*), designated as a CRPR 1B.2 species, was observed in scrub habitat along the northern edge of the PBR site (see Figure 4.3-6). No special-status plants were identified at the SMVR-SB site during 2020 through 2022 botanical surveys.

An additional 39 special-status terrestrial plant species were considered for this analysis. No CRPR List 1.B or 2 species are expected to occur due to known ranges and lack of suitable habitat. A complete list of all special-status plant species that were considered for this analysis is provided in Appendix E2. Descriptions for the special-status plant species that were observed or have the potential to occur are provided in Appendix E3.

Special-Status Terrestrial Wildlife Species

A total of five special-status terrestrial wildlife species were observed in the Project area during surveys performed in 2020 through 2022, including Steelhead – South-Central California Coast Distinct Population (SCCC DPS) (*Oncorhynchus mykiss*) (FT), California red-legged frog (*Rana draytonii*) (FT), brown pelican (*Pelecanus occidentalis*) (FP), American peregrine falcon (*Falco peregrinus anatum*) (FP), and San Diego desert woodrat (*Neotoma lepida intermedia*) (SSC) (PG&E, 2020a; 2021a; 2022c; 2022d; 2022e) (see Figures 4.3-5 through 4.3-7).

Invertebrates. There were no special-status invertebrates detected at the DCPP, PBR, or SMVR-SB site during surveys conducted from 2020 through 2022, and critical habitat for federally-listed invertebrates does not occur at any of the Project sites.

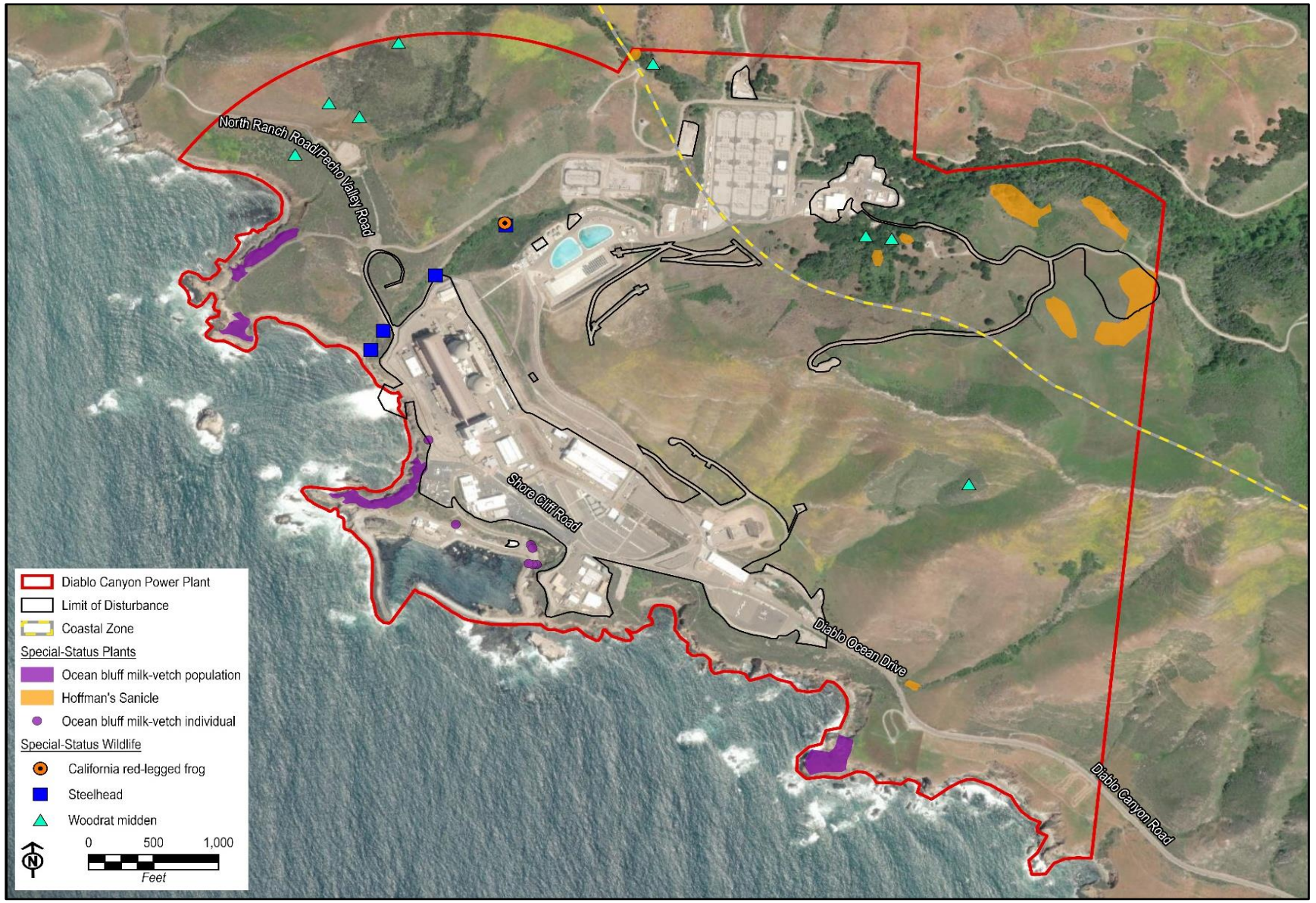
The DCPP site has a low potential to support Morro shoulderband snail (*Helminthoglypta walkeriana*). Morro shoulderband snail have an extremely limited distribution and prefer sandy soils associated with a variety of native and non-native vegetation communities, debris piles, and leaf litter. This species is most commonly associated with sandy soils in coastal dune and dune scrub habitat in the immediate vicinity of Morro Bay; however, there are recent research-grade records from farther inland locations within Montaña de Oro State Park, just north of the DCPP site (iNaturalist, 2022). Further, recent surveys have demonstrated that the species occupies a diversity of both native and non-native habitats throughout its geographic range (San Luis Obispo, 2013; San Luis Obispo, 2014). It may also occur inland in coastal sage scrub and grasslands with shrubs that provide canopy and leaf litter (USFWS, 2003). Soil maps of the DCPP site indicate that some areas may consist of sandy loams yet the scale of these maps do not

adequately reflect microhabitat conditions that could potentially support Morro shoulderband snails at the DCPP site.

Suitable foraging and nesting habitat for Crotch's bumble bee (*Bombus crotchii*) (SC) occurs throughout the general region, particularly in open grasslands and scrub communities in and adjacent to the DCPP site. Crotch's bumble bee is one of four species of bumblebee identified as species of greatest conservation need that are currently being tracked by the CNDDB. Although Crotch's bumble bee was petitioned for state listing in 2018 and was subsequently advanced to state candidacy in 2019, the Superior Court ruled in 2020 that insects are not eligible for listing under CESA. However, citing that CESA is part of the California Fish and Game Code which defines "fish" as any "mollusk, crustacean, invertebrate, or amphibian", the State Supreme Court reversed this judgment and the CDFW Commission reinstated candidacy for the four bumblebee species, including Crotch's bumblebee, in 2022 (Supreme Court Case S275412).

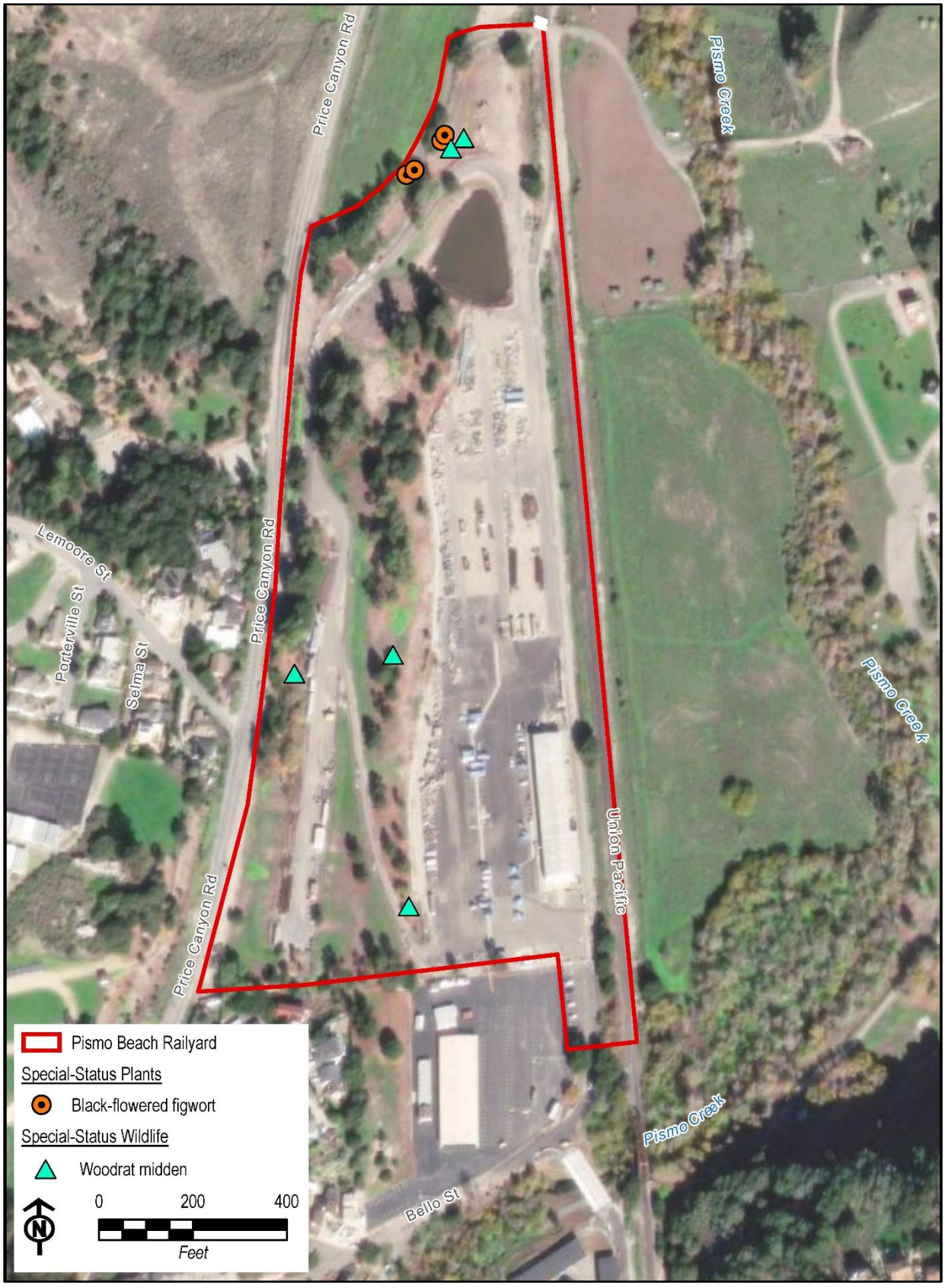
Monarch butterfly (overwintering population) (*Danaus plexippus* – pop. 3) (FC) roost in wind-protected tree groves, primarily preferring eucalyptus trees. The DCPP site does not support suitable habitat for monarch butterfly; however, this species could occur as a migrant that moves through the area to preferable overwintering sites along the coast. Suitable overwintering habitat for monarch butterfly does occur in ornamental groves of trees within and immediately adjacent to the PBR site and in a eucalyptus grove present at the SMVR-SB site. Further, this species is known to roost at sites located approximately one-quarter mile south of the PBR site and adjacent to the City of Santa Maria within 5 miles of the SMVR-SB site (iNaturalist, 2022).

Figure 4.3-5. DCPP Special-Status Plants and Wildlife



Source: Esri, 2022; PG&E, 2021c.

Figure 4.3-6. PBR Special-Status Plants and Wildlife



Source: Esri, 2022; PG&E, 2021c.

Figure 4.3-7. Tom's Pond Special-Status Wildlife

Source: Esri, 2022; PG&E, 2021

Fishes (Non-Marine). Steelhead was the only special-status fish species observed in the Project area during 2020 habitat assessments (PG&E, 2020a) (see Figure 4.3-5). Critical habitat for federally-listed fishes does not occur at any of the Project sites.

At the DCPP site, various age classes of the steelhead resident form were identified within Diablo Creek inhabiting the three scour pools and channel areas downstream of the 230 kV and 500 kV switchyards (PG&E, 2020a). The resident form of the species appears to be utilizing the lower stream section of Diablo Creek, although available spawning habitat would be limited to an estimated 250-foot section of stream channel due to passage barriers, such as Diablo Canyon Road/Diablo Ocean Drive (PG&E, 2020a). For the purposes of this analysis, the resident and anadromous forms of the species are collectively discussed since the potential exists for the latter to access Diablo Creek during periods of high flows and high tides. Although the PBR site does not support perennial stream habitat, the portion of Pismo Creek located less than one-quarter mile to the south is included in the USFWS final designation of critical habitat for the steelhead SCCC DPS. According to the NMFS, recent and reliable data is notably absent from the primary core population in Pismo Creek (NMFS, 2016). It is suggested, however, that there are very small (< 10 adults) but persistent runs in most streams at the southern edge of the SCCC DPS range each year, except in years when there have been insufficient winter flows to breach bars at the mouths of lagoons (Williams et al., 2016). For the purposes of this analysis, it is assumed that steelhead are present in, or will occupy over time, the portion of Pismo Creek within the vicinity of the PBR site.

Amphibians. California red-legged frog was the only special-status amphibian observed in the Project area during surveys (see Figure 4.3-5). Critical habitat for federally-listed amphibians does not occur at any of the Project sites.

California red-legged frog was observed within a scour pool at the DCPP 230 kV and 500 kV switchyard culvert outlet in the lower section of Diablo Creek (PG&E, 2020a; 2020e). The species was also detected at Tom's Pond, a perennial pond located approximately 1.5 miles north of the DCPP site (PG&E, 2020e) (see Figure 4.3-7). Suitable breeding habitat for this species was identified within slow-moving, perennial waters along the lower reach of Diablo Creek. Additionally, emergent vegetation along the creek provides suitable substrate on which to lay eggs. The shoreline edge of Tom's Pond provides suitable breeding habitat for red-legged frog due to the protection from terrestrial predators by thick vegetation. Although California red-legged frog was not observed at the PBR site during protocol-level surveys conducted in 2020, suitable breeding habitat is present along Pismo Creek just south of the site and it has been documented less than 1 mile away (iNaturalist, 2022). If present, the species may also utilize native upland habitats that occur within and adjacent to the PBR site for aestivation, dispersal, and foraging. Detention basins, water conveyance structures, and other manmade features, such as Guadalupe Lake, located near the SMVR-SB site, provide marginal breeding habitat for California red-legged frog, particularly during periods of above average precipitation when surface water is permanent or nearly permanent over the breeding season. Agricultural fields and ruderal habitats adjacent to the SMVR-SB site provide marginal dispersal and foraging habitat for the species.

California tiger salamander (FE, ST) is known from the County of San Luis Obispo but has not been found in this section of the coast. A study completed for the USFWS in 2009 found that there is an approximate 55-mile-wide distributional gap between native tiger salamander populations in northeastern San Luis Obispo County and northwestern Santa Barbara County (USFWS, 2009). Although this species was not observed at the DCPP site during surveys of Diablo Creek or Tom's Pond, potential breeding habitat is present at Tom's Pond and suitable aestiva-

tion habitat for it is present in upland areas surrounding Diablo Creek and Tom's Pond (PG&E, 2022d). It is known to share the same breeding and overwintering habitat as California red-legged frog (Alvarez et al., 2013; Fellers et al., 2001). Therefore, there is a low potential for California tiger salamander to occur at the DCPP site. The SMVR-SB site is within the dispersal range of one documented breeding pond and four potential breeding ponds for California tiger salamander; however, habitat assessments determined that the potential for the species to occur, even infrequently, is marginal based on mostly paved surfaces at the facility, poor quality upland habitat, and intensive agriculture within the dispersal path between source populations and the SMVR-SB site (PG&E, 2022c).

Coast range newt (*Taricha torosa*) (SSC) and lesser salamander (*Batrachoseps minor*) (SSC) also have the potential to occur along Diablo Creek and in adjacent upland habitats, particularly oak woodlands.

Reptiles. There were no special-status reptiles detected at the DCPP, PBR, or SMVR-SB sites during surveys conducted from 2020 through 2022. There is no critical habitat for federally-listed reptiles at any of the Project sites.

Although not observed during surveys, the DCPP site supports suitable habitat for several non-listed special-status reptiles, including western pond turtle (*Emys marmorata*) (SSC), California legless lizard (*Anniella pulchra*) (SSC), coast horned lizard (*Phrynosoma blainvillii*) (SSC), and two-striped garter snake (*Thamnophis hammondii*) (SSC). There is a moderate to high potential for any of these species to occur.

Western pond turtle and two-stripe garter snake are primarily aquatic species but use upland habitats during breeding and overwintering. Suitable aquatic habitat for these species occurs along Diablo Creek and most of the undeveloped areas at the DCPP site provide potential upland habitat used by western pond turtle and two-striped garter snake for refuge, cover, foraging, or nesting sites. Additionally, the riparian corridor along Pismo Creek and agricultural basins and irrigation canals adjacent to the SMVR-SB site support suitable aquatic habitat for these species; however, the PBR or SMVR-SB sites do not support suitable upland habitat and these species are not expected to utilize the site for aestivation or foraging.

Suitable habitat for California legless lizard and coast horned lizard occurs within most of the undeveloped areas throughout the DCPP site, particularly in scrub or woodland habitats where friable soils, leaf litter, and other refuge sites are available. Loose soils and small patches of native vegetation in and around the PBR and SMVR-SB sites, support suitable habitat for the California legless lizard and there is a high potential for it to occur.

Birds and Raptors. Special-status birds that were observed during surveys include American peregrine falcon (FP) and brown pelican (FP). There is no critical habitat for federally-listed birds at any of the Project sites.

American peregrine falcon was observed perched near Diablo Creek (PG&E, 2020a). There are several established breeding territories for this species along the coast of San Luis Obispo County and it is known to nest along cliffs within and near the DCPP site (CDFW, 2022d). Suitable foraging habitat occurs throughout most of the Project area. Brown pelican was observed flying along the coastal bluffs near the DCPP site (PG&E, 2020a). Although this species does not nest

in the area, suitable roosting habitat is present within the terrestrial areas of the DCPP site where it is known to roost along the breakwater.

Although not detected during surveys, the Project area provides suitable breeding or foraging habitat for several additional special-status bird and raptor species. White-tailed kite (*Elanus leucurus*) (FP) and loggerhead shrike (*Lanius ludovicianus*) (SSC) may utilize suitable nesting habitat in oak woodlands on the upper terraces or dense riparian trees along Diablo Creek at the DCPP site or marginal habitat near the PBR site. Burrowing owl (*Athene cunicularia*) (SSC) have been documented overwintering in the vicinity of each of the Project sites, but have not been reported nesting (SWCA, 2016; iNaturalist, 2020). California condor (*Gymnogyps californianus*) (FE, SE, FP), bald eagle (*Haliaeetus leucophalus*) (SE, FP), and golden eagle (*Aquila chrysaetos*) (FP) are not expected to breed within the Project area. California condor, however, may occur as a rare forager in open spaces within the Project area. Bald eagle may be observed foraging along the coastline and there are several recent records of this species located near the southern shore of Morro Bay less than 5 miles from the DCPP site (iNaturalist, 2022). Similarly, golden eagle has been observed within 1 mile of the DCPP site and suitable foraging habitat occurs at each of the Project sites. The Project area also supports suitable foraging habitat for northern harrier (*Circus hudsonius*) (SSC), long-eared owl (*Asio otus*) (SSC), and tricolored blackbird (*Agelaius tricolor*) (SSC).

Mammals. San Diego desert woodrat (SSC) was the only special-status mammal detected during surveys conducted for the Proposed Project (PG&E, 2020a) (see Figures 4.3-5 and 4.3-6). There is no critical habitat for federally-listed mammals at any of the Project sites.

Although San Diego desert woodrat was not observed during surveys, several middens were recorded within scrub, chapparal, and woodland habitats throughout the DCPP site and in the northern portion of the PBR site (PG&E, 2020a).

Due to the wide-ranging movement of mid- to large-sized mammals, including American badger (*Taxidea taxus*) (SSC), ringtail (*Bassariscus astutus*) (FP), and mountain lion (Southern California/ Central Coast ESU [SC]), there is a potential for these species to occur in the Project area. Suitable habitat for American badger occurs in open fields surrounding the DCPP site and this species has been observed by PG&E staff at the site. Ringtail has not been reported in or near the Project area; however, this species is not tracked by CDFW in the CNDDB. There are recent records located several miles to the northwest near the City of Cambria and several miles to the southeast near Sedgwick Reserve (iNaturalist, 2022). Given the lack of records and the elusive nature of the ringtail, there is a potential for this species to occur within the foothills and canyons surrounding the DCPP site and along Diablo Creek. Mountain lion have been recently reported from Montaña de Oro State Park just north of the DCPP site and in the foothills above Pismo Beach (iNaturalist, 2022).

Additionally, the various structures and tree groves at, or adjacent to, each of the Project sites support potential roosting habitat for special-status bats, including pallid bat (*Antrozous pallidus*) (SSC), Townsend's big-eared bat (*Corynorhinus townsendii*) (SSC), western mastiff bat (*Eumops perotis californicus*) (SSC), and big-free-tailed bat (*Nyctinomops macrotis*) (SSC).

A complete list of all special-status terrestrial wildlife species that were considered for this analysis is provided in Appendix E2. Descriptions for the species that were observed or have the potential to occur are provided in Appendix E3.

Wildlife Corridors and Special Linkages

Studies suggest that habitat fragmentation and isolation of natural areas ultimately results in the loss of native species within those communities (Soule et al., 1988). The ability for wildlife to move freely among populations is important to long-term genetic variation and demography. Fragmentation and isolation of natural habitat may cause loss of native species diversity in fragmented habitats. In the short term, wildlife movement may also be important to individual animals' ability to occupy home ranges, if a species range extends across a potential movement barrier. These considerations are especially important for rare, threatened, or endangered species, and wide-ranging species such as large mammals, which exist in low population densities.

Ultimately, linkages and corridors facilitate regional animal movement. Corridors offer wildlife unobstructed terrain for foraging and for dispersal of young individuals. Riparian corridors and areas of natural vegetation remain a common pathway utilized by many species because they typically provide cover, foraging opportunities, and water. However, as the movements of wildlife species are more intensively studied using radio-tracking devices, there is mounting evidence that some wildlife species do not restrict their movements to some obvious landscape element, such as a riparian corridor. For example, radio-tracking and tagging studies of newts, California red-legged frogs, and western pond turtles found that long-distance dispersal involved radial or perpendicular linear movements away from a water source with little regard to the orientation of the assumed riparian "movement corridor," but towards suitable riparian or upland wintering habitat (Fellers and Kleeman, 2007; Semlitsch, 1998; Reese and Welsh, 1997).

There has been no known widespread analysis of wildlife movement conducted in the Project area. Nonetheless, large tracts of grassland habitat and extensive rangeland surrounding the DCPP site likely support the broad movement of many wildlife species. Riparian woodlands associated with Diablo Creek provide a linear movement corridor from natural areas within the Irish Hills to the coastal bluffs along the boundary of the DCPP site. Although the DCPP site is relatively porous in undeveloped areas, the fenced and developed portions of the site likely inhibit some broad and linear wildlife movement in the area.

The areas surrounding each of the railyard sites have been heavily fragmented by development, including existing rail facilities, agricultural fields, and roads. Due to this fragmentation, general wildlife movement is likely restricted or constrained through these areas. However, Pismo Creek, located adjacent to the PBR site supports an important riparian corridor for many wildlife species.

Jurisdictional Waters and Wetlands

DCPP. The DCPP site is located within the Irish Hills Coastal Watershed (SLO Watershed Project, 2021). The Irish Hills Coastal Watershed drains 27,922 acres or approximately 44 square miles. The Irish Hills Coastal Watershed is in the San Luis Range, along the remote San Luis Obispo County coastline between the communities of Los Osos and Avila Beach. The drainages rise to a

maximum elevation of 1,819 feet above MSL at Saddle Peak. The watershed is dominated by grazing lands, some of which are in conservation or agricultural easements, and public lands.

An initial wetland assessment was performed by PG&E in June 2020 and identified 8 jurisdictional drainage features within or adjacent to the DCPP site (PG&E, 2020a). In addition, nine artesian springs were identified, seven of which are directly associated with mapped drainages. However, this assessment did not include a formal delineation per federal and State guidelines. Therefore, Aspen conducted a preliminary assessment of jurisdictional wetlands and waters in July 2022 to determine the extent of resources under the jurisdiction of the USACE, the CCRWQCB, the California Coastal Commission (CCC), and CDFW that occur within the DCPP site (see Appendix E4).

Prior to conducting the preliminary assessment, Aspen reviewed current and historic aerial photographs; detailed topographic maps (1-foot intervals); the Soil survey of San Luis Obispo County, California, coastal part Soil Survey; and the local and State hydric soil list to evaluate the potential active channels and wetland features that occur at the site (Natural Resource Conservation Service [NRCS], 2022a; 2022b). The survey area for the assessment included the limits of disturbance and a 100-foot survey buffer (collectively referred to as "the survey area"). During the assessment, vegetation, hydrology, and locations of soil test pits were mapped using an Apple iPad paired with an Arrow GPS unit and identified on aerial photographs. Field maps were digitized using Global Information Technology (GIS) and total jurisdictional area for each feature was calculated (see Appendix E4).

Four categories of jurisdictional features were identified within the survey area. These included approximately 2.8 acres of USACE non-wetland waters of the US, 3.4 acres of CCRWQCB non-wetland waters of the state, 0.01 acres of CCC wetlands, and 5.7 acres of CDFW jurisdictional streambeds and vegetation (see Figure 4.3-8). The CCC wetland appears to have been recently formed by a leaking pipe and is located adjacent to the Marina. Table 4.3-4 provides a summary of jurisdictional acreages calculated for the DCPP site.

The most prominent jurisdictional feature at the DCPP site is Diablo Creek, which flows west out of the Irish Hills and traverses the site along the northern edge of the developed area at the DCPP site. Diablo Creek is a single channel creek characterized by a narrow low-flow channel varying in depth from 1 to 3 feet bordered by low terraces and deeply incised banks. Substrate in the channel varies from fine sized sediments (silt and clay) to coarse cobble and boulders (PG&E, 2020a). Above the switchyards, Diablo Creek enters an underground culvert (for approximately 2,714 linear feet) and flows beneath the 230 kilovolts (kV) and 500 kV switchyards. From here, the creek drains directly into the Pacific Ocean and forms the western boundary of Parcel P at the DCPP site (see Figure 2-2, DCPP Site). Diablo Creek is occupied by steelhead and potentially other fish species and supports a broad riparian corridor dominated by coast live oak, arroyo willow, and big-leaf maple.

Figure 4.3-8. DCPP Jurisdictional Waters

Source: Esri, 2022; Terra Verde, 2022.

Table 4.3-4. Summary of Jurisdictional Resources Within the Survey Area at the DCPP Site

	USACE Waters and Wetlands (acres)[1]		CCRQWCB Waters and Wetlands (acres)[1]		CCC Wetland (acres)	CDFW Streambeds (acres)
	Non-wetland Waters of U.S.	Wetlands	Non-wetland Waters of State	Wetlands		
Limits of Disturbance (Temporary Impact Area)	0.79	--	1.07	--	--	1.17
Survey Buffer (Indirect Impact Area)	1.99	--	2.29	--	0.01	4.52
Total Survey Area	2.78	--	3.36	--	0.01	5.69

Source: Table 5 in Appendix E4.

[1] Non-wetland Waters of the United States and Non-wetland Waters of the State overlap; as such, jurisdictional acreages are not additive.

The remaining non-wetland features identified at the DCPP site are characterized as ephemeral swales, erosional rills, small drainages, and concrete-lined ditches. The importance of ephemeral streams to wildlife in arid environments is well known (Levick et al., 2008). Ephemeral features similar to those occurring at the DCPP site provide unique habitat that is distinct from the surrounding uplands as they are typically characterized by a more continuous vegetation cover and greater microtopographic diversity. In the arid west, ephemeral streams provide important habitat for wildlife and are responsible for much of the biotic diversity in an area (Levick et al., 2008). They have higher moisture content and provide shade and cooler temperatures within the channel.

Pismo Beach Railyard. PG&E conducted an initial wetland assessment for the PBR site in June 2020 (PG&E, 2020a). One drainage feature and 5 wetlands, which included 3 isolated wetlands and 2 in-channel wetlands, were identified within the survey area. The drainage feature is a manmade ditch located along the eastern border of the PBR site that flows south into Pismo Creek, just south of the site. No formal delineation was completed for this feature; however, it was assumed to meet the requirements of USACE waters of the US and CCRWQCB and CDFW waters of the state due evidence of an ordinary high-water mark (OHWM) and a clearly defined bed and bank. The isolated wetlands were delineated following USACE guidelines; however, since each are hydrologically separated, they would not meet USACE jurisdiction but were determined to meet CCRWQCB and CDFW jurisdiction (PG&E, 2020a). Although the in-channel wetlands were not formally delineated, they were identified within the OHWM of the drainage feature and were assumed to meet the requirements of both federal and state wetlands under the jurisdiction of USACE, CCRWQCB, and CDFW.

Although not within the PBR site, Pismo Creek, a perennial blue line drainage is located just south of the site where it generally flows southwest and eventually drains to the Pacific Ocean.

SMVR-SB Railyard. PG&E did not identify any wetlands or other jurisdictional features at the SMVR-SB site (PG&E, 2021a). Guadalupe Lake, which appears to be a highly modified feature that is seasonally tilled and planted and may pond on occasion during relatively wetter years, is located approximately 350 feet south of the SMVR-SB site.

4.3.2 Regulatory Setting

Relevant federal and state laws, regulations, and policies that pertain to biological resources are summarized in Appendix C. The discussion below provides a summary of the County of San Luis Obispo land use plans, and those plans relevant to the railyards, that pertain to the biological resources.

County of San Luis Obispo General Plan: Conservation and Open Space Element (COSE). The COSE is a tool to protect and preserve sensitive and unique biological resources. The COSE provides goals, policies, and implementation strategies to identify and protect biological resources that are a critical component of the County's environmental, social, and economic well-being. Goals included in the COSE include:

- Goal BR 1 – Native habitat and biodiversity will be protected, restored, and enhanced.
- Goal BR 2 – Threatened, rare, endangered, and sensitive species will be protected.
- Goal BR 3 – Maintain the acreage of native woodlands, forests, and trees at 2008 levels.
- Goal BR 4 – The natural structure and function of streams and riparian habitat will be protected and restored.
- Goal BR 5 – Wetlands will be preserved, enhanced, and restored.
- Goal BR 6 – The County's fisheries and aquatic habitats will be preserved and improved.
- Goal BR 7 – Significant marine resources will be protected.

The COSE also includes specific policies and implementation strategies for each goal identified above to protect and maintain sensitive biological resources.

San Luis Obispo County Code Title 22 Land Use Ordinance. The Land Use Ordinance is the primary tool used by the County to carry out the goals, objectives, and policies of the General Plan. The Land Use Ordinance uses combining designations to identify and highlight areas of the County having sensitive natural or built features. The Sensitive Resource Area (SRA) combining designation is applied to areas of the County with special environmental qualities, or areas containing unique or endangered vegetation or habitat resources. Section 22.14.10 of the Land Use Ordinance provides combining designation standards that require proposed uses be designed with consideration of the identified sensitive resources and the need for their protection.

San Luis Obispo County Code Title 23 Coastal Zone Land Use Ordinance. The Coastal Zone Land Use Ordinance was created to protect and enhance the significant natural resources within the County and applies to all land use and development activities within the unincorporated areas of the County that are located within the California Coastal Zone established by the California Coastal Act of 1976. The ordinance includes the following sections pertaining to sensitive biological resources:

- Section 23.05.042 (Drainage Plan Required) – Requires the County review and approval of a drainage plan prior to the issuance of land use or construction permits for applicable projects.
- Section 23.05.060 (Tree Removal) - Provides standards to protect existing trees and other coastal vegetation from indiscriminate or unnecessary removal consistent with Local Coastal

Plan policies and pursuant to Section 30251 of the California Coastal Act. As defined in the ordinance, "tree removal" means the destruction or displacement of a tree by cutting, bulldozing, or other mechanical or chemical methods, which results in physical transportation of the tree from its site and/or death of the tree.

- Section 23.05.062 (Tree Removal Permit Required) - A tree removal permit is required for the removal of any tree within the Coastal Zone with trunks measuring 8 inches or greater in diameter at four feet above grade.
- Section 23.05.064 (Tree Removal Standards) – Any tree removed to accommodate new development or because it is a safety hazard shall be replaced, in a location on the site and with a species common to the community, as approved by the Planning Director.
- Section 23.07.160 (Required Findings) – Any land use permit application within a Sensitive Resource Area shall be approved only where the Review Authority can make the following required findings:
  - The development will not create significant adverse effects on the natural features of the site or vicinity that were the basis for the Sensitive Resource Area designation, and will preserve and protect such features through site design.
  - Natural features and topography have been considered in the design and siting of all proposed physical improvements.
  - Any proposed clearing of topsoil, trees, or other features is the minimum necessary to achieve safe and convenient access and siting of proposed structures, and will not create significant adverse effects on the identified sensitive resource.
  - The soil and subsoil conditions are suitable for any proposed excavation; site preparation and drainage improvements have been designed to prevent soil erosion, and sedimentation of streams through undue surface runoff.
- Section 23.07.170 (Environmentally Sensitive Habitats) – Applies to development proposed within or adjacent to (within 100 feet of the boundary of) an ESHA. The County ordinance separates ESHAs into two categories:
  - Mapped ESHA – Includes wetlands, coastal streams, riparian vegetation, terrestrial and marine habitats; and, are mapped as Land Use Element combining designations.
  - Unmapped ESHA – Includes, but are not limited to, known wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats that may not be mapped as Land Use Element combining designations. The existence of an Unmapped ESHA is determined by the County at or before the time of application acceptance and shall be based on the best available information. Unmapped ESHA includes but is not limited to:
    - Areas containing features or natural resources when identified by the County or County approved expert as having equivalent characteristics and natural function as mapped other environmental sensitive habitat areas.
    - Areas previously known to the County from environmental experts, documents, or recognized studies as containing ESHA resources.

- Other areas commonly known as habitat for species determined to be threatened, endangered, or otherwise needing protection.

- Section 23.07.172 (Wetlands) - Provides requirements for development within or adjacent (within 100 feet of the upland extent of) wetlands and wetland areas that are defined as ESHAs. The requirements are intended to maintain the natural ecological functioning and productivity of wetlands and estuaries and, where feasible, to support restoration of degraded wetlands.

- Section 23.07.174 (Streams and Riparian Vegetation) – Provides provisions intended to preserve and protect the natural hydrological system and ecological functions of coastal streams. Requires that new development be setback from the upland edge of riparian vegetation the maximum extent feasible. In urban areas (inside the URL) this setback shall be a minimum of 50 feet. In the rural areas (outside of the URL) this setback shall be a minimum of 100 feet. The minimum riparian setback may be adjusted through a Minor Use Permit approval, but in no case shall structures be allowed closer than 10 feet from a stream bank.

- Section 23.07.176 (Terrestrial Habitat Protection) – Provides provisions intended to preserve and protect rare and endangered species of terrestrial plants and animals by preserving their habitats. Emphasis for protection is on the entire ecological community rather than only the identified plant or animal.

County of Santa Barbara Comprehensive Plan: Conservation Element. This element includes policies that address the conservation, development, and use of natural resources including water, forests, soils, rivers, and mineral deposits in Santa Barbara County. It provides policies to protect native habitats, such as chaparral and scrub, grasslands, and aquatic streams, on a community-level scale. As described in Section 1.3.3.2, *Surface Transportation Board*, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction over railyards (e.g., SMVR-SB).

City of Pismo Beach General Plan: Conservation and Open Space Element: The COSE element provides 30 policies that are considered essential for the quality of life of Pismo Beach. These policies are established within categories that include but are not limited to butterfly habitat, coastal foothills, riparian habitat, and Pismo Creek.

4.3.3 Significance Criteria

The following significance criteria are based on the CEQA environmental checklist presented in Appendix G of the CEQA Statutes and Guidelines and are used to describe the potential impacts of the Proposed Project on biological resources that may occur in the Project Area. All direct, indirect, short-term, and long-term impacts associated with Proposed Project are assessed within this section. The Proposed Project would have a significant adverse environmental impact on biological resources if it would:

- Result in temporary or permanent disturbance to, or destruction of, terrestrial habitat (or its functional habitat value) that is recognized as biologically or economically significant in federal, state, or local policies, statutes, or regulations, result in a net loss in the functional

habitat value of an Environmentally Sensitive Habitat Area (ESHA), or result in the temporary or permanent loss or degradation of Essential Fish Habitat (EFH).

- Result in the loss or decline in the local population of a federal- or state-listed threatened, endangered, or candidate species, or loss or disturbance to federally designated critical habitat; result in the potential loss or decline in the local population of any other regulated, fully protected, candidate, sensitive or special-status species identified under federal, state, local, or regional plans, policies and regulations, or by CDFW and USFWS; or result in any "take" of an endangered, threatened, or candidate species, CDFW fully protected species, or other special-status species.
- 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.
- Create an adverse effect on waters of the US defined under Section 404 of the Clean Water Act; waters of the State defined under Section 404 of the Clean Water and the Porter-Cologne Water Quality Control Act; jurisdictional features defined under Section 30233 of the Coastal Act; jurisdictional features defined under Section 1600 *et seq.* of the California Fish and Game Code; or other jurisdictional waters through direct removal, filling, hydrological interruption, or other means.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan.

4.3.4 Environmental Impact Analysis and Mitigation

Direct impacts to biological resources are defined as those that result from a project and occur at the same time and place. Direct impacts can include the removal of vegetation, localized erosion and sedimentation during construction, and exposure to hazardous materials and fugitive dust. Indirect impacts are caused by a project but can occur later in time, are farther removed in distance, and are reasonably foreseeable and related to a project. Indirect impacts would include the long-term degradation of habitat from alterations to natural hydrology or the introduction of invasive weeds and wildlife.

Proposed Project activities that may result in direct and indirect impacts to terrestrial biological resources during Phase 1 include demolition of existing structures and infrastructure, excavation of the SE Borrow Site, expansion of the access road to the SE Borrow Site, removal of the Discharge Structure (extends into Phase 2), and demolition of the existing Firing Range. Phase 2 activities that directly or indirectly impact terrestrial biological resources include additional vegetation removal and grading (if required), demolition of remaining structures, and final site restoration.

Table 4.3-5 summarizes the potential direct and indirect impacts on biological resources that are present or could potentially occur in the Project area during Phase 1 and Phase 2 decom-

missioning activities. The summaries presented in Table 4.3.5 are based on the evaluations conducted under each of the impact evaluations below.

Table 4.3-5. General Summary of Potential Impacts to Biological Resources

Biological Resource	Direct Impact	Indirect Impact
Native vegetation communities and ESHAs	• Temporary removal • Increased erosion and sedimentation to adjacent vegetation • Exposure to hazardous materials and fugitive dust	• Degradation of habitat from the introduction and spread of noxious and invasive weeds • Long-term alterations to hydrology • Future changes to sensitive community status and protections
Special-Status Plants	• Temporary loss of habitat • Crushing, trampling, entrapment • Exposure to hazardous materials and fugitive dust	• Degradation of habitat from the introduction and spread of noxious and invasive weeds • Long-term alterations to hydrology • Future changes to regulatory status and protections
Common and special-status wildlife, nesting birds and raptors	• Temporary loss of habitat • Crushing, trampling, entrapment • Destruction of burrows, dens, roosting sites, and nests • Disruption to breeding behavior • Increased erosion and sedimentation • Exposure to hazardous materials and fugitive dust • Introduction of fungal disease (amphibians and bats)	• Degradation of habitat from the introduction and spread of noxious and invasive species • Long-term alterations to hydrology • Future changes to regulatory status and protections
Jurisdictional waters and wetlands	• Increased erosion and sedimentation • Transport of hazardous materials	• Degradation of habitat from the introduction and spread of noxious and invasive species • Long-term alterations to hydrology

Impact BIO-1: Result in permanent and temporary loss of native vegetation communities (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

During Phase 1, the majority of ground-disturbing activities would occur in previously developed areas at the DCPP site. However, direct impacts would occur from removal of native vegetation communities during excavation of the SE Borrow Site, expansion of and improvements to the access roads to the SE Borrow Site (Skyview Road and Ranch Road) and the scenic overlook (Skyview Road), removal of the Discharge Structure, demolition of the existing Firing Range, and

construction of a new decommissioning office building. Some of these communities, or portions of some of these communities meet the definition of ESHA (see Impact BIO-7). The majority of direct impacts from vegetation removal would be temporary as most areas would be restored to natural conditions; however, permanent impacts would occur from the expansion of the access road to the SE Borrow Site. This portion of Skyview Road/Ranch Road would be permanently expanded from 12 feet to approximately 20 feet by adding graded aggregate base/ crushed rock to each side. Road expansion activities would result in the permanent removal of approximately 0.45 acre of native and non-native vegetation. Additionally, the construction of the new decommissioning office building would result in the permanent removal of less than 10 square feet of coyote brush scrub vegetation (PG&E, 2023). Any permanent impacts would be offset through the revegetation and restoration of previously developed areas (see Figure 2-36). For example, the existing Firing Range, which has an area of approximately 3.17 acres, would be restored to correspond with adjacent communities of native and non-native vegetation. Table 4.3-6 summarizes the temporary and permanent impacts to vegetation communities and land cover types at the DCPP site. Figure 4.3-9 illustrates impacts to vegetation communities at the DCPP site within the limits of disturbance.

As part of the Proposed Project, PG&E has developed a Discharge Structure Demolition and Restoration Plan that would be implemented during revegetation and restoration of the terrestrial area associated with the removal of the Discharge Structure during Phases 1 and 2 (see Table 2-2). This plan includes requirements for topsoil salvage and replanting for the terrestrial portion of the Discharge Structure restoration area, which is primarily characterized as an ESHA and is dominated by coastal bluff scrub habitat.

Table 4.3-6. Impacts to Vegetation Communities at the DCPP Site

Vegetation and Land Cover Type	Temporary Impact (acres)	Permanent Impact (acres)
Coastal, Riparian, and Wetland Communities		
Arroyo Willow Thickets**	0.02	0.00
Hardstem and California Bulrush Marshes**	0.00	0.00
Artesian Springs / Freshwater Wetlands**	0.00	0.00
Upland Communities		
Wild Oats and Annual Brome Grasslands	7.83[1]	0.28
Needlegrass – Melic Grass Grassland	0.83	0.00
Coyote Brush Scrub**	2.41[2]	0.00[3]
Coastal Bluff Scrub*/**	0.14	0.00
California Sagebrush Scrub**	3.84	0.08
California Coffeeberry Scrub*	0.14	0.00
Bush Monkeyflower Scrub*/**	2.39	0.00
Chamise – Black Sage Chaparral	0.00	0.00
Buck Brush Chaparral	0.00	0.00

Table 4.3-6. Impacts to Vegetation Communities at the DCPP Site

Vegetation and Land Cover Type	Temporary Impact (acres)	Permanent Impact (acres)
Toyon Chaparral	0.08	0.00
Coast Live Oak Woodland and Forest**	0.19[4]	0.09[5]
Other Land Cover Types		
Ruderal / Disturbed	2.04	0.00
Developed	81.45	0.00
Total	**101.36**	**0.45**

* Designated as a CDFW Sensitive Natural Community

** Community or portion of community identified as an Environmentally Sensitive Habitat Area (ESHA) pursuant to Section 30107.5 of the Coastal Act and Section 23.07.170 of the San Luis Obispo County Code.

[1] Includes approximately 90 square feet (< 0.01 acre) of temporary impacts to wild oats and annual brome grassland from construction of a new decommissioning office building (PG&E, 2023).

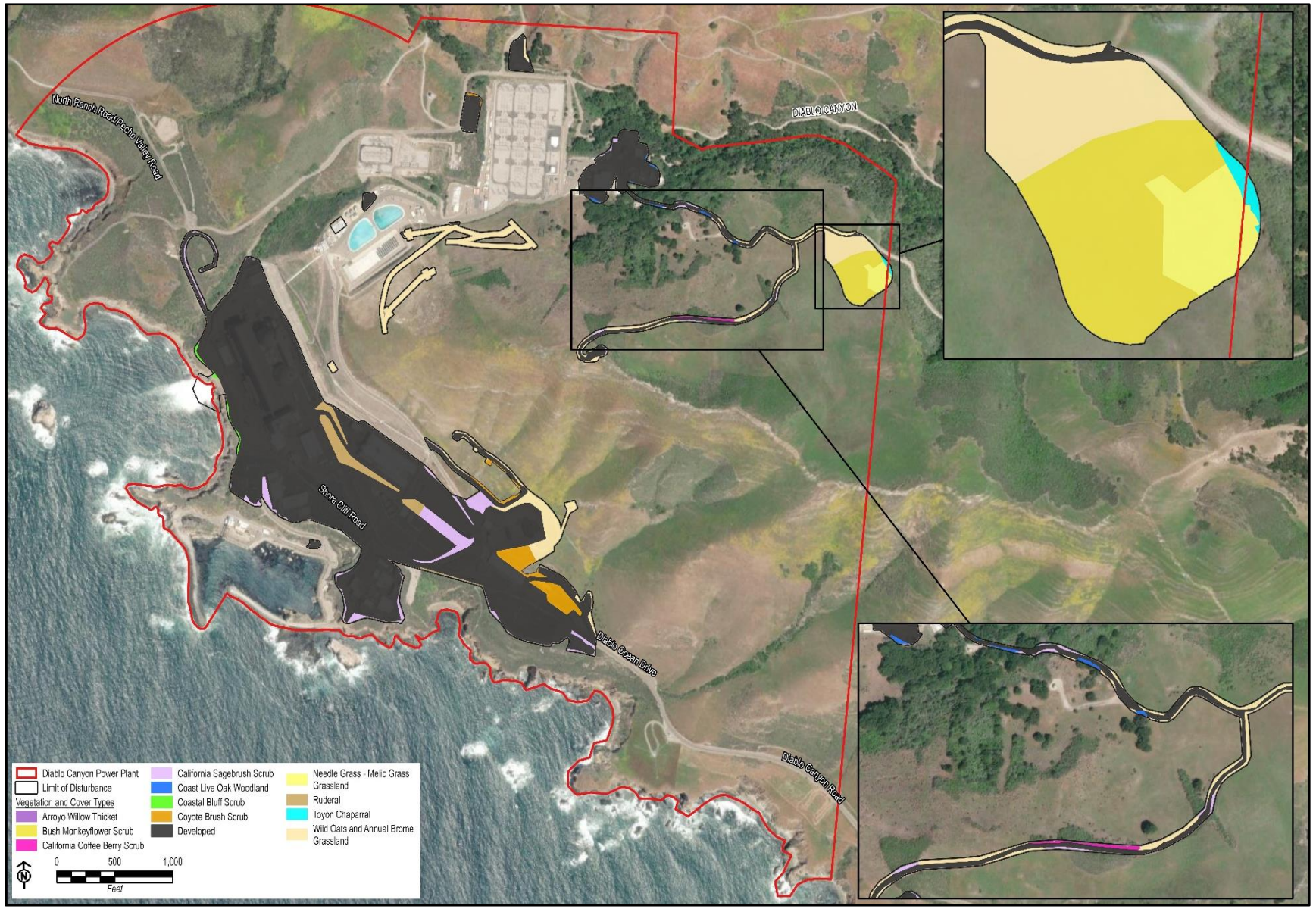
[2] Includes approximately 320 square feet (< 0.01 acre) of temporary impacts to coyote scrub brush from construction of a new decommissioning office building (PG&E, 2023).

[3] Includes negligible permanent impact to less than 10 square feet (< 0.01 acre) to coyote brush scrub from construction of a new decommissioning office building (PG&E, 2023).

[4] Does not account for temporary impacts that may result from upgrades to the existing septic system in the East Canyon Area or installation of new septic system, if required.

[5] Would be limited to impacts to understory vegetation as oaks and other mature trees would be left in place.

Figure 4.3-9. DCPP Impacts to Vegetation and Cover Types



Sources: Esri, 2022; Terra Verde, 2022.

Although tree removals are not anticipated, direct impacts would occur during tree trimming or grading within the critical root zone required for the expansion of the access road to the SE Borrow Site and construction of facilities in the revised Owner-Controlled Area. Impacts to oak trees could also occur during soil remediation to remove radiological and hazardous contamination as a result of implementing the Site Characterization Plan. Further, an existing septic and dispersal system, designed and implemented circa 1968 to serve facilities in the East Canyon Area, would be upgraded, or a new system would be established (see Section 2.3.3, *Project Description*). Ground-disturbing activities associated with upgrades to the existing system or installation of a new system could result in impacts to oak trees if oak trees are damaged or removed. While the County's Inland Title 22 Oak Woodland Ordinance (Section 22.58), which sets criteria for clear-cutting of oak trees outside of the Coastal Zone, does not apply to the Proposed Project; the County's COSE includes Policies BR3.1 and BR3.2, which require protection of native oaks in new development and mitigation through replacement for loss. Pursuant to the San Luis Obispo County Code Title 23 Coastal Zone Land Use Ordinance, no trees shall be removed without appropriate permits. PG&E would be required to comply with tree removal standards listed under Section 23.05.064 of the Coastal Zone Land Use Ordinance. These standards would be required as part of land use permits and would include tagging of trees to be removed and compliance with removal and replacement criteria if tree removals were to occur.

Direct impacts could also occur during vegetation removal associated with wildfire prevention (see Section 4.17, *Wildfire*). PG&E would comply with CAL FIRE's defensible space requirements for removal of brush and dead or dying vegetation and debris (PRC Section 4291 and California Code of Regulations Title 14, Section 1299.03 – see EIR Appendix C) as part of any grading or construction permits issued by the County. PG&E maintains an existing Fire Protection Program for the DCPP site in accordance with NRC regulations. This program transition to the DCPP Decommissioning Fire Protection Program to meet the NRC requirements of 10 CFR 50.48(f) for decommissioning sites, which would address fire prevention. Throughout decommissioning activities, PG&E would continue to manage vegetation in coordination with CAL FIRE/County Fire Department. The majority of any vegetation removal for fire prevention would occur along the access road to the SE Borrow Site. Vegetation along the access road is dominated by grasslands which would require minimal, if any, maintenance. Some portions of the access road to the SE Borrow Site traverse coast live oak woodlands. In compliance with the regulations mentioned above, PG&E would be required to remove dead or dying vegetation and debris from these areas which would not conflict with the County's Inland Title 22 Oak Woodland Ordinance (Section 22.58). Any brush removal required for fire prevention would be consistent with PG&E's Decommissioning Fire Protection Program.

Vegetation removal and grading would result in direct impacts to native vegetation if alterations to local soil conditions and existing hydrologic properties intensify the immediate frequency and magnitude of surface runoff and soil erosion. Even at small, discrete locations, the impact of microtopography on surface and runoff connectivity of the topsoil act as primary controls for the hydrological and erosional processes in broader environments (Mohr et al., 2013). Steeper slopes are particularly vulnerable to increased erosional effects during vegetation removal (Cram et al., 2007).

Vegetation may also be directly impacted from inadvertent spills of hazardous materials including petroleum products (e.g., paints, solvents, fuels), hydraulic leaks, and construction waste or leachate. Concrete-related waste can inadvertently contact vegetation through various means, such as drift, leaking, or spilling. Exposure to fugitive dust can result in direct impacts to individual plants and broader plant communities in habitats adjacent to work areas. Dust can have deleterious physiological effects and may affect plant productivity and nutritional qualities (Sharifi et al., 1997). Prolonged exposure may also affect natural plant processes such as photosynthesis, respiration, and transpiration, and allow the penetration of phytotoxic gaseous pollutants (Farmer, 1993). The potential for increased levels of fugitive dust would occur during demolition of developed areas and the removal of hardscape features. Additionally, excavation of the SE Borrow Site and soil remediation could produce excessive dust.

PG&E would implement several plans as part of the Proposed Project during Phase 1 activities to address habitat restoration, limit erosion, control sources of contaminants, and minimize fugitive dust (see Table 2-2, *Project Description*). These plans include a Discharge Structure Demolition and Restoration Plan. This plan addresses restoration of the terrace and topsoil associated with the void created by removal of the Discharge Structure. These plans also include a construction-specific Stormwater Pollution Prevention Plan (SWPPP) (Applicant Commitment [AC] BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*). The SWPPP would contain Best Management Practices (BMPs) designed to minimize erosion and control sediment during decommissioning activities. PG&E has also developed a Preliminary Erosion and Sediment Control Plan (PG&E, 2020b) that identified BMPs, such as perimeter controls (e.g., silt fencing and fiber rolls) and hydroseeding, to control erosion and sedimentation from the DCPP site during grading and restoration activities. The SWPPP would require additional site-specific BMPs to reduce or prevent the accidental release of hazardous materials and other pollutants. These would include designating areas for refueling or washing equipment, the use of secondary containment (i.e., drip pans), and requiring spill control kits be kept on-site. In addition to the SWPPP, the development and implementation of a Spill Prevention, Control, and Countermeasure (SPCC) Plan would be required by 40 CFR 112. The SPCC Plan would address countermeasures to contain, cleanup, and reduce the effects of an accidental release of oil and oil-based products. The Proposed Project also includes fugitive dust controls and identifies the areas of disturbance (AC AQ-1, *Minimize Fugitive Dust*, and AC AQ-5, S*LOAPCD Fugitive Dust Mitigation Measures*). As part of the Proposed Project, PG&E would delineate work limits and staging areas, identify disturbance areas, and conduct routine inspections of equipment for leaks (AC BIO-4, *Site Maintenance and General Operations*).

The introduction and spread of invasive or noxious weeds can result in widespread and long-term indirect impacts to native vegetation communities. Invasive or noxious weeds can outcompete and displace native plants, which may be of concern to coastal terraces and bluff communities. They can also invade riparian areas and change fire ecology. Weeds also directly affect habitat by altering soil chemistry, hydrological conditions, and pollinator population densities. Such impacts could be associated with the transport of weed seeds or plant parts on vehicles and equipment from outside areas into the Project area. The Proposed Project includes washing all vehicles and equipment prior to entering work areas and utilizing materials that are certified weed-free to limit the introduction and spread of noxious and invasive weeds (AC BIO-8, *Noxious Weed Prevention*). Indirect impacts could also occur if the upgraded or new septic system

associated with the East Canyon Area were to fail resulting in leaching of materials, such as nitrogen and potassium, that provide nutrients and promote soil conditions conducive to the spread of invasive and noxious weeds. For example, weeds are adapted to rapidly take up the nutrients that are released in organic matter and many germinate in response to the presence of nitrate which is used as a cue to indicate the absence of competition (Cornell University, 2018). However, because any upgrades would improve the existing system, which has been in use since circa 1968, the potential risk of failure would be substantially reduced relative to current conditions. Further, the installation of a new system would result in even a greater reduction of potential risks associated with failure of the system.

Due to the long-term nature of the Proposed Project, there is the potential that existing regulatory requirements may be modified, or new designations assigned to vegetation communities at the DCPP site. Indirect impacts could occur if vegetation communities present at the DCPP site receive new or additional protections that are not currently covered within the context of this analysis.

Impacts to native vegetation communities would be significant without mitigation. Implementation of MM BIO-1 (*Prepare and Implement a Worker Environmental Awareness Program [WEAP]*), MM BIO-2 (*Prepare and Implement a Habitat Restoration and Revegetation Plan*), MM BIO-3 (*Implement Oak and Native Mature Tree Protection Measures*), MM BIO-4 (*Prepare and Implement Weed Management Plan*), MM BIO-5 (*Prepare and Implement a Biological Resources Adaptive Management Plan*), MM AQ-1 (*Implement a Decommissioning Activity Management Plan [DAMP]*), MM EM-2 (*Project Plan Updating, Tracking, and Reporting*, specifically for the Habitat Restoration and Revegetation Plan required under MM BIO-2, the Weed Management Plan required under MM BIO-4, the Biological Resources Adaptive Management Plan required under MM BIO-5, the DAMP required under MM AQ-1, and Drainage Plans required under MM HWQ-1), and MM HWQ-1 (*Prepare and Implement Drainage Plans*) would ensure that impacts are reduced to less than significant (Class II).

These mitigation measures include the implementation of a Dust Control Plan and a Construction Drainage Plan, a County-approved worker training program, site stabilization and restoration, native tree protections, weed control, and tracking and enforcement of plans developed as part of the Proposed Project during Phase 1 activities at the DCPP site. These measures also account for the protection of resources potentially subject to future and unforeseen regulations associated with sensitive vegetation communities.

Railyards

Pismo Beach Railyard. Although primarily developed, the PBR site supports patches of native vegetation communities, including oak woodlands, scrub habitat, and wetland features. Vegetation removal and grading activities would not be required as part of modifications at the PBR site and direct impacts from vegetation removal would not occur. The majority of the PBR site is covered by impervious surfaces and this would not change during decommissioning activities. Therefore, erosion, sedimentation, and dust control would continue to be managed as it is under existing conditions and impacts to native vegetation communities would not occur. Activities at the PBR site would involve vehicles and equipment that utilize hazardous materials (e.g., motor oil, diesel fuel, hydraulic fluid) that could directly impact adjacent vegetation communities if

accidentally released or improperly contained. Native vegetation within and adjacent to the PBR site would be indirectly impacted if these communities are displaced or their habitat is degraded from the introduction and spread of invasive weeds during modifications and use of the PBR site. However, since modifications and use would be primarily conducted within developed portions of the PBR site, impacts to native vegetation communities at the PBR site would be less than significant and no additional mitigation is required (Class III).

SMVR-SB. The SMVR-SB site is mostly developed. However, this site supports patches of native scrub communities along with a dense eucalyptus grove within the eastern portion of the site. Vegetation removal and grading activities would not be required as part of modifications at the SMVR-SB site and direct impacts from vegetation removal would not occur. The railyard operator would make any improvements needed to the rail lines or facility. Although grading activities would not occur, soil disturbance from the installation of a new rail spur and road base could result in increased levels of erosion and sedimentation. Native vegetation communities within and adjacent to the SMVR-SB site would be directly impacted if exposed to excess sediment that is transported off-site. In compliance with State guidelines, the railyard operator would implement stormwater management measures at the SMVR-SB site if ground disturbance is greater than one acre. Direct impacts from the exposure of hazardous materials to native vegetation would be similar to those discussed for the PBR site. Improvements at the railyard could result in surface disturbance that generates fugitive dust. Direct impacts would occur if native vegetation within and adjacent to the SMVR-SB site is exposed to excessive levels of fugitive dust. Indirect impacts would include the introduction and spread of noxious and invasive weeds. However, since modifications and use would be primarily conducted within developed portions of the SMVR-SB site, impacts to native vegetation communities would be less than significant and no mitigation is required (Class III).

Phase 2

Direct impacts from vegetation removal during Phase 2 would be similar but substantially reduced in magnitude to those discussed for Phase 1 (see Phase 1 discussion). During Phase 2, grading/fill activities would primarily focus on backfilling voids created by the demolition of DCPP structures and restoring the DCPP site to a natural condition that promotes positive drainage. The process of removing the Discharge Structure and completing associated restoration would continue in Phase 2 (see Phase 1 discussion). In addition, a new blufftop road segment would be constructed to connect Shore Cliff Road with the North Ranch Road/Pecho Valley Road. All of these features would be located within previously developed areas.

Those disturbed areas not retained would be reclaimed through scarifying, regrading, and revegetating. If any clearing of previously undisturbed areas is required, topsoil would be removed and stockpiled. During Phase 2, PG&E would also prepare a Revegetation Plan as part of the Proposed Project (see Section 2.4.4, *Grading and Landscaping [Final Site Restoration]*) that would apply to all temporary disturbance areas and the demolition zone. Upon completion of grading to natural contours, areas would be revegetated to establish native vegetation that is consistent with adjacent plant communities and wildlife habitat. Seed mixes would be developed that have species mixes similar to adjacent reference areas. No oak trees would be removed for the temporary expansion of the access road to the SE Borrow Site. In areas where

oak trees are located, the width of disturbance would be reduced as needed to avoid removal of the trees. PG&E would continue to remove brush and dead/dying trees consistent with CAL FIRE's defensible space requirements during Phase 2 (see Phase 1 discussion).

The potential for increased erosion and fugitive dust would likely increase during Phase 2 activities as the majority of hardscape features at the DCPP site would be removed resulting in a greater level of exposed soils. The use of vehicles and equipment would continue to result in the potential for the accidental release or improper containment of hazardous materials. PG&E would minimize erosion, fugitive dust, and release of hazardous materials, during Phase 2, as described in the Project Description (AC AQ-1, *Minimize Fugitive Dust*; AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*; and AC BIO-4, *Site Maintenance and General Operations*).

Ongoing grading activities would result in indirect impacts if natural hydrology of the site is altered in such a way as to adversely affect adjacent vegetation communities due to increased long-term erosion and sedimentation, altered on-site drainage patterns, or additional runoff that would exceed capacity of stormwater conveyance. As part of the Proposed Project's site restoration and pursuant to Section 23.05.042 (Drainage Plan Required) of the San Luis Obispo County Code, a Stormwater Management Plan (SWMP) would be prepared prior to the issuance of any grading or building permits (see Section 2.4.5, *Long-Term Stormwater Management*). The SWMP would implement management of stormwater drainage from the site over the period of time required for revegetation to establish and to minimize potential sediment impacts from the site to Diablo Creek and the Pacific Ocean. The level of exposed soils occurring at the DCPP site during Phase 2 would increase the potential for indirect impacts from the introduction and spread of noxious and invasive weeds. Indirect impacts associated with potential changes to existing regulatory requirements or new designations for sensitive vegetation communities would be similar to those discussed for the DCPP site under Phase 1.

Impacts to native vegetation communities would be significant without mitigation. Therefore, the same mitigation measures listed for Phase 1 activities at the DCPP site would be required. Additionally, MM HWQ-1 (*Prepare and Implement Drainage Plans*), which requires the preparation and implementation of a Post-Decommissioning Drainage Plan prior to initiating Phase 2 activities and MM HWQ-2 *(Long-Term Erosion and Sediment Control Plan*), which would identify BMPs to control erosion and sedimentation from the site during grading and final site restoration activities, would be required. Plans developed as part of the Proposed Project would be tracked and enforced by MM EM-2 (*Project Plan Updating, Tracking, and Reporting*, specifically for the Drainage Plans required under MM HWQ-1 and the Long-Term Erosion and Sediment Control Plan required under MM HWQ-2). The implementation of these mitigation measures would ensure that impacts are reduced to less than significant (Class II).

Post-Decommissioning Operations

New Facility Operations. Upon completion of Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. These activities would be conducted within fully developed and fenced areas. In compliance with CAL FIRE's defensible space requirements, post-decommissioning activities would also include periodic removal of brush and dead/dying trees. These activities would be minimal and would only be performed to maintain compliance

with CAL FIRE and County regulations. Therefore, impacts would be less than significant, and no mitigation is required.

Future Actions. Upon the NRC's release of the Part 50 license, the Marina would be made available to a third-party for permitting and reuse for recreational, education, or commercial purposes and controlled access from the Avila Gate Guard House Facilities would no longer be implemented. Operations could include boating activities and use of the ancillary structures, parking lots, and public restroom facility. For analysis purposes, it is assumed that up to 200 persons could visit the Marina per day. Any third-party use of the Marina would be restricted to developed facilities within the Marina. However, since access to the facilities would be uncontrolled, direct impacts could occur if vegetation communities are damaged or loss as a result of public use outside of the developed areas. Impacts to native vegetation communities would be significant without mitigation. Therefore, MM BIO-6 (*Install "No Entry" Signage at DCPP*), which includes restrictions for entering unauthorized areas during future actions, would ensure that impacts are reduced to less than significant (Class II).

Mitigation Measures for Impact BIO-1.

AQ-1 **Implement a Decommissioning Activity Management Plan (DAMP).** See Section 4.2.

BIO-1 **Prepare and Implement a Worker Environmental Awareness Program (WEAP).** Prior to and for the duration of any ground disturbance, the Applicant or its designee shall provide Worker Environmental Awareness Program (WEAP) training to all new personnel prior to beginning work at the DCPP, PBR, and SMVR-SB sites. The training may be presented in the form of a video.

The training program shall be developed by the Lead Biologist (MM BIO-9) to educate Project personnel about the Project's sensitive biological resources. A draft of the training program (i.e., video and written materials) shall be provided to the County of San Luis Obispo Planning and Building Department (County) for review and approval no fewer than 135 days prior to issuance of construction permits for any ground disturbance at the DCPP, PBR, or SMVR-SB sites. The training may be conducted concurrent with other environmental training (e.g., cultural resources awareness training, safety training, etc.).

The WEAP training shall include, at a minimum:

- An overview of the sensitive biological resources that are known or have the potential to occur in the Project area and surrounding habitat. This shall include nesting birds, special-status plants and wildlife, and sensitive habitats.
- An overview of the Project, Mitigation Monitoring and Reporting Program (MMRP), and regulatory permit conditions and the consequences of non-compliance with these requirements.
- An overview of the federal and State Endangered Species Acts, Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, pertinent Fish and Game Code sections, and other applicable regulatory requirements and the consequences of non-compliance with these requirements.

- Functions, responsibilities, and authority of biological monitors and how they interact with Project personnel.
- Identify clear points of contact for biological monitors and construction personnel including who to contact should workers have questions regarding compliance with environmental documents and permit conditions.
- Project restrictions, such as Environmentally Sensitive Habitat Areas (ESHAs), required setbacks from sensitive biological resources, and avoidance buffers.
- Requirements to remain within authorized work areas and on approved access routes, with examples of flagging and signage used to designate these areas.
- Information on compliance with Project speed limits, control of litter and micro trash, smoking restrictions, wildfire minimization measures, spill containment and clean up, and the implementation of Best Management Practices.
- Measures to reduce the potential to introduce or spread invasive weeds into the Project area, descriptions of the Project's weed control methods, and compliance requirements for Project personnel.
- Identify limitations for refueling near aquatic features or where spills may enter State or federal waters.
- Explanation that wildlife must not be harmed or harassed including procedures for abiding by Project speed limits, covering pipes, securing excavations, and installing exit ramps to prevent wildlife entrapment.

Training acknowledgement forms shall be signed by each person attesting that they understand and will abide by Project requirements. The Applicant or its designee shall provide the County, within a Monthly Compliance Report, the WEAP training acknowledgement forms for persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. A hardhat sticker that can be easily verified in the field will be distributed by the Applicant or its designee to indicate participation in the WEAP training.

WEAP – Abbreviated Version. An abbreviated version of the WEAP training shall be presented to individuals who are exclusively delivery drivers, truck drivers, or visitors to the Project area. The Abbreviated Version will be administered by a qualified Project biologist prior to those individuals entering or working on any Phase 1 or Phase 2 activities.

Abbreviated WEAP training will provide sufficient information for the individual to understand and maintain compliance with the MMRP and permit conditions. The abbreviated WEAP presentations will be tailored to the situation and emphasize Project requirements that are relevant to that situation (e.g., speed limits, staying within work limits, use of designated wash areas, etc.).

A training acknowledgement log will be signed by each participant identifying that they understand and will abide by Project compliance conditions. A hardhat sticker that can be easily verified in the field will be distributed by the Applicant or its

designee to indicate participation in the Abbreviated WEAP training. This log will be provided in a Monthly Compliance Report to the County.

Short-term visitors (total of 5 days or less per year) to the Project area who will be accompanied by WEAP-trained Project personnel for the entire duration of their visit(s) are not required to attend WEAP or abbreviated WEAP training.

BIO-2 **Prepare and Implement a Habitat Restoration and Revegetation Plan.** Prior to the submission of any building or construction permit applications, the Applicant or its designee shall prepare a Habitat Restoration and Revegetation Plan (HRRP) that addresses restoration and revegetation related to all areas that are being temporarily disturbed during Phase 1 and Phase 2 activities. It shall also address final site restoration and long-term restoration and revegetation monitoring required after decommissioning activities are completed.

The HRRP shall consist of two separate and distinct components (Part 1 and Part 2) that address restoration and revegetation during Phase 1 and Phase 2 of the Project, respectively. At a minimum, the HRRP shall provide a statement of goals and objectives for each component based on Project schedule, location, and areas to be stabilized and vegetation types to be restored and/or revegetated during that phase of the Project.

At least 30 days prior to implementation of each component of the HRRP, the Applicant or its designee shall submit the resume of a Qualified Ecologist/Restoration Biologist, knowledgeable in habitat restoration, to the County of San Luis Obispo Planning and Building Department (County) for review and approval. The Qualified Ecologist/Restoration Biologist will be responsible for monitoring implementation of the HRRP component as well as the progress on achieving the established success criteria (see below).

Additionally, the HRRP shall include the following:

Part 1 - Phase 1 site stabilization and weed control.

Prior to the submission of applications for any County Grading/Construction Permits and removal of any vegetation at the DCPP site associated with Phase 1, the Applicant or its designee shall submit Part 1 of the HRRP to the County, and to California Department of Fish and Wildlife (CDFW) and US Fish and Wildlife Service (USFWS), for joint-agency review and comment. The Applicant or its designee shall incorporate all requested revisions in coordination with the County for final approval of Part 1 of the HRRP within 12 months from the start of Phase 1 decommissioning activities.

The goals and objectives for this component shall ensure that temporarily disturbed areas are stabilized to minimize erosion, offsite sedimentation, fugitive dust, and minimize the potential for the introduction and spread of noxious and invasive weeds during Phase 1 activities. Phase 1 restoration activities shall be consistent with the requirements of the Weed Management Plan (see MM BIO-4). This component shall apply to all temporary disturbance areas and demolition zones that are not retained

at the DCPP site during Phase 1 activities. At a minimum, Phase 1 restoration activities shall include the following components:

a. Description of initial site preparation (grading or re-contouring).

b. Pre-installation weeding for target weeds (see MM BIO-4).

c. Description of the hydroseeding, broadcast seeding, and container planting.

d. Irrigation, weeding, and routine maintenance and monitoring.

e. Use of a native seed mix that contains grasses, annual wildflowers, forbes, and perennial shrubs for all areas not stabilized by other methods that prevent the recruitment of native or non-native vegetation.

Success criteria must meet the following:

- At least 50 percent of the vegetation cover within the Phase 1 restoration areas shall be native species that naturally occur in local native habitats.
- Non-native cover for areas proposed for future re-use or development may include grasses and non-native species that are not considered noxious or invasive (see MM BIO-4).
- Absolute cover of native plant species within the Phase 1 restoration areas shall equal at least 50 percent total cover within 2 years of seeding and 75 percent total cover within 5 years of seeding.

Part 2 - Phase 2 final site restoration and revegetation.

Prior to the submission of applications for any County Grading/Construction Permits (e.g., Intake Structure Closure, grading permit for the Firing Range, grading permit for final soil remediation, etc.) associated with Phase 2, and before NRC Part 50 License Termination, the Applicant or its designee shall submit Part 2 of the HRRP to the County, and to CDFW and USFWS, for joint-agency review and comment. Timing of this submittal may be adjusted upon mutual agreement between the Applicant or its designee and the County. The Applicant or its designee shall incorporate all requested revisions in coordination with the County for final approval of Part 2 of the HRRP within 12 months from the start of Phase 2 decommissioning activities.

The Part 2 component shall be applicable to all temporary disturbance areas outside of the revised Owner Controlled Area and Marina facilities. For all temporary disturbance areas, the HRRP shall include objectives and quantifiable success criteria commensurate with the goals for each site. Part 2 shall include the following elements for final site restoration and revegetation of all temporary disturbance areas:

a. A statement of final restoration and revegetation goals and objectives for each temporary disturbance area, based on vegetation type and jurisdictional status of each area.

b. Quantitative success criteria for each restoration and revegetation area or category.

c. Implementation details, including but not limited to, topsoil stockpiling and handling; post-construction site preparation; soil decompaction and recontouring; planting and seeding palettes to include only native, locally sourced materials with confirmed availability from suppliers; and schedules.

d. Maintenance, including but not limited to, irrigation or hand-watering schedule and equipment, erosion control, and weed control consistent with the Weed Management Plan (see MM BIO-4).

e. Specify monitoring schedule and data collection methods throughout the establishment of vegetation with key indicators of successful or unsuccessful progress and quantitative values to objectively determine success or failure at the conclusion of the monitoring period.

Success criteria must meet the following for annual or perennial grass seeded areas:

- Year 1: Greater or equal to 40 percent total cover.
- Year 2: Greater or equal to 50 percent total cover.
- Year 3: Greater or equal to 60 percent total cover.
- Year 4: Greater or equal to 70 percent total cover.
- Year 5: Greater or equal to 80 percent total cover.

Success criteria must meet the following for perennial shrub seeded areas:

- Year 1: Greater or equal to 10 percent total cover.
- Year 2: Greater or equal to 20 percent total cover.
- Year 3: Greater or equal to 35 percent total cover.
- Year 4: Greater or equal to 50 percent total cover.
- Year 5: Greater or equal to 60 percent total cover.

Nonnative species percent cover cannot exceed 20 percent total cover in areas outside of ESHAs and 10 percent total cover within ESHAs, or as determined based on existing conditions with the approval of the County.

All revegetated sites shall have persisted successfully without irrigation or remedial planting for a minimum of 2 years prior to the completion of monitoring.

***Weed Control*.** The Weed Management Plan (see MM BIO-4) shall be implemented throughout implementation of Part 1 and Part 2 of the HRRP. For all restoration and revegetation areas, only seed or potted nursery stock of locally occurring native species from a local source will be used. The list of plants observed during botanical surveys for the Project will be used as a guide to site-specific plant selection. Seeding and planting will be conducted as described in Chapter 5 of *Rehabilitation of Disturbed Lands in California* (Newton and Claassen, 2003).

***Timing*.** For all revegetation or restoration areas, the HRRP shall include objectives and quantifiable success criteria commensurate with the goals for each site. Monitoring of the revegetation and restoration sites will continue annually for no fewer than 5 years upon completion of Phase 2 final site restoration activities or until

the defined success criteria are achieved, whichever is later. The Applicant or its designee shall be responsible for implementing remediation measures as needed.

Reporting. For all revegetation and restoration areas, the Applicant or its designee shall provide annual reports to the County verifying acreage subject to temporary disturbance, identifying which items of the HRRP have been completed, and which items are still outstanding. The annual reports will also include pertinent maps of areas subject to restoration and revegetation, a summary of the revegetation and restoration activities for the year, a discussion of whether performance standards were met, any remedial actions conducted or recommendations for remedial actions, if warranted, that are planned for the upcoming year. Each annual report shall be submitted to the County within 90 days after completion of each year of revegetation and restoration work.

BIO-3 **Implement Oak and Native Mature Tree Protection Measures.** Prior to the submission of applications for any County Grading/Construction Permits, the Applicant or its designee shall identify any native mature trees or oak trees subject to Section 23.05.062 (Tree Removal Permit Required) of the County Coastal Zone Land Use Ordinance. Protected trees in Coastal areas are defined as oaks or other native trees with a trunk diameter of 8-inches or more at 4 feet above grade (also referred to as "diameter at breast height" or "DBH"). Coastal trees are required to be protected with a buffer of 100 feet from any development impacts and be mapped and identified on construction plans.

In non-Coastal ("Inland") area, oak tree protection is established through the County's Conservation and Open Space Element Policies 3.1 and 3.2 and pursuant to SB1332, which requires any oak tree with a trunk diameter of 5-inches or greater diameter at breast height (DBH), located within 50 feet of all discretionary Project work areas, to be avoided, protected, or mitigated. Oak trees located within 50 feet of any proposed construction activity are to be mapped and identified on construction plans.

3.1. *Prior to start of any site-disturbing activities or County permit issuance related to Decommissioning:* Prepare and submit for County review and approval an Oak and Native Tree Mitigation Plan, which incorporates and updates the existing Oak Tree Inventory and Mitigation Plan to include all native mature trees and oak trees that may be impacted or removed. The plan shall be prepared by a certified Arborist or other County-approved Tree Care Expert (i.e., Biologist/Botanist, Nursery Specialist). The Oak and Native Tree Mitigation Plan shall define the tree protection and mitigation requirements for protected trees proposed to be removed or that may be impacted. The Plan shall indicate the standards for Coastal and Inland tree protection and shall require construction plans to identify which standards apply to trees on the plans. Any tree that is removed (or impacted to the point of removal) requires replacement at a minimum 4:1 ratio. Any tree impacted as described below shall be replaced as described below.

a. Impacted trees shall be evaluated as follows: Any oak tree with a DBH of 12 inches or less that has lost 25 percent or more of its living canopy, any oak tree with a DBH of 24 inches or less that has lost 15 percent of its living canopy, and any oak tree greater than 24 inches DBH that has lost more than 5 percent of their living canopy; or, the removal of more than 3 structural roots greater than or equal to 2 inches (or 1/3 of their root zone) shall be considered lost and require full replacement mitigation at a ratio of 4:1.

b. The Oak and Native Tree Mitigation Plan shall describe the method(s) proposed for mitigation, as follows:

    i. Replacement On Site: If on-site replacement is proposed, the Plan shall indicate preliminary tree replacement planting locations, and describe the sourcing, size and planting methodology for in-kind replacement trees.

    ii. Replacement Off-site: If off-site replanting is proposed, the Oak and Native Tree Mitigation Plan shall include a preliminary contract or other evidence of availability and terms of the replanting site.

    iii. Fee Payment for Mitigation: mitigation by fee payment at the rate of $970 per tree removed, or $485 per tree impacted, may be authorized by County Planning through the County's oak mitigation fee payment program to the California Wildlife Conservation Board. The fee is paid to County Planning prior to Final/Occupancy on any grading or construction permit subject to oak mitigation requirements, following applicant submittal of a summary of oak impacts and mitigation fee total, and County receipt of acknowledgement via letter from the Wildlife Conservation Board to accept said funds.

    iv. Replacement trees shall be monitored for a period of seven years or until success criteria are met, with annual reports submitted to the County. The Plan shall specify monitoring frequency, success criteria, remediation for losses, and reporting format.

3.2. *Prior to the start of any site-disturbing activities or issuance of a County permit related to Decommissioning:* The following avoidance and protection measures shall be implemented where Project activities are proposed to be conducted within 100 feet of any protected tree (≥ 8-inch DBH) in the Coastal Zone, and within 50 feet of any oak tree (≥ 5-inch DBH) located in the Inland areas of the site.

a. Prior to issuance of a construction permit in any area where protected trees located within prescribed buffers for Coastal and Inland protection may be impacted or removed by development: the Applicant or their designee shall prepare and submit a tree evaluation, prepared by a certified Arborist or other County-approved Tree Care Expert (i.e., Biologist/Botanist, Nursery Specialist), that: (1) evaluates the size and health of all trees within the work area or outside limits of work within specified buffers; (2) evaluates the potential for impacts; and (3) identifies trees that are proposed or likely to be. The evaluation shall

include an estimate of in-kind mitigation tree replacement needed for that permit, using 4:1 for trees removed and 2:1 for trees impacted.

b. The canopy edge and trunk location of any protected tree located within 100 feet (Coastal Zone, all native trees) or 50 feet (Inland, oaks only) of the limits of any proposed vegetation removal, tree trimming, vehicle compaction, grading, road improvements, or other ground-disturbing activities shall be surveyed by a Licensed Land Surveyor or other qualified individual and presented on all Project construction plans. The County's Coastal Zone boundary and required tree protection buffers shall be incorporated into all Project construction plans.

c. Construction drawings for permits shall include an Oak and Native Tree Inventory and a location plan that clearly delineates all oaks and native trees within 50 feet (Inland) or 100 feet (Coastal) of the limits of proposed site disturbance. Plans shall indicate which trees are to be: (1) removed, (2) protected but impacted, or (3) protected and avoided. Trees shown on grading and/or construction plans shall be identified by species and trunk diameter at breast height. Plans shall identify the name and contact information of the Project Arborist or Tree Care Specialist responsible for monitoring.

d. Prior to initiating any vegetation removal, tree trimming, grading, trenching, road improvements, or other ground-disturbing activities, tree protection fencing shall be installed at or beyond the outer limits of the sensitive root zone (defined as 1.5 times the canopy diameter) to protect trees to be preserved. Where grading or trenching will encroach into the root zone, the fencing shall be at edge of disturbance, and encroachment into root zone shall be documented and mitigated. No ground-disturbing activities shall be permitted within the protective fencing areas without the approval of the County of San Luis Obispo Planning and Building Department. The fencing shall be maintained and kept intact throughout the duration of Phase 1 and Phase 2 decommissioning activities or as otherwise determined by the County through the permitting process for specific areas.

e. During Construction impacts to the canopy or sensitive root zone of protected trees shall be avoided to the maximum extent feasible. Impacts include, but are not limited to, trimming, pruning, thinning, road grading, trenching, vehicle compaction, installation of impervious surfaces (e.g., asphalt, road base), or installation of new irrigation systems or other supplemental water sources within the sensitive root zone. Any roots exposed during Phase 1 and Phase 2 ground disturbance shall be treated by the Project Arborist (or approved Tree Care Specialist) and covered with a layer of soil to match existing topography.

f. Within 60 days of completing grading/construction activity and tree trimming or removal as authorized under any County grading or construction permit, the Project Arborist shall submit a report to the County of resulting tree impacts and mitigation requirements for that permit. The total summary of tree impacts and mitigation (replacement on-site, off-site or fee payment) shall be tracked as a running total for the DCPP site thorough Phase 1 and Phase 2.

g. Upon completion of Phase 1 construction activities, and prior to Initiation of Phase 2, the Project Arborist (or approved Tree Care Specialist) shall prepare a Phase 1 implementation summary of the Oak and Native Tree Mitigation Plan and submit to the County Planning and Building Department. The report shall include a summary of tree replacement / mitigation required and implemented to date. A Phase 2 Tree Protection update based on Phase 2 activity shall be prepared and provided to the County at the same time, to be approved prior to issuance of permits for Phase 2. At the completion of grading for Phase 2, and prior to final Site Restoration, a final Tree Protection Summary and mitigation status shall be provided. Monitoring of replacement trees shall be conducted for up to 7 years.

BIO-4 **Prepare and Implement a Weed Management Plan.** Prior to the submission of applications for any County Grading/Construction Permit related to Decommissioning, the Applicant or its designee shall prepare and implement a Weed Management Plan (WMP) describing the proposed methods of preventing and controlling Project-related spread of weeds or new weed infestations. The Draft WMP shall be submitted to the County of San Luis Obispo Planning and Building Department (County) for review and approval at least 60 days prior to Phase 1 activities at the DCPP site. No Project activities shall proceed until the WMP is approved.

For the purpose of the WMP, "weeds" shall include designated noxious weeds, as well as any other non-native weeds or pest plants identified on the weed lists of the California Department of Food and Agriculture or the California Invasive Plant Council (CAL-IPC). The WMP shall be implemented throughout all Phase 1 and Phase 2 decommissioning activities at the DCPP site and shall include the following components:

Background. An assessment of the Project's potential to cause the spread of noxious and invasive weeds into new areas, or to introduce new weeds into the Project area. This section must list known and potential noxious and invasive weeds occurring in the Project area and in the general region and identify threat rankings and potential consequences of Project-related occurrence or spread for each species. This assessment shall include, but is not limited to, weeds that (1) are rated high or moderate for negative ecological impact in the CAL-IPC Inventory Database (CAL-IPC, 2022b), and (2) aid and promote the spread of wildfires. This section shall identify control goals for each species (e.g., eradication, suppression, or containment) likely to be found within the Project area.

Preconstruction weed inventory. The Applicant or its designee shall inventory all areas subject to Project-related vegetation removal or ground-disturbance. The weed inventory shall include vehicle and equipment access routes within the DCPP site and staging and storage yards. Weed occurrences shall be mapped and described according to density and area covered. The map shall be updated at least once a year.

Prevention. The WMP shall specify methods to minimize potential transport of weed seeds within the DCPP site and from areas outside of the DCPP site. The WMP shall specify inspection procedures for equipment and materials entering the Project area.

Vehicles and equipment shall be inspected and cleaned prior to entering specified points in the Project area and before leaving the DCPP site where weed occurrences must be locally contained. Heavy equipment (e.g., graders, bulldozers, cranes, etc.) shall be cleaned of dirt and mud that could contain weed seeds, roots, or rhizomes. Equipment shall be inspected to ensure it is free of any dirt or mud that could contain weed sources. Tires, tracks, outriggers, and undercarriages shall be carefully washed. Vehicles (e.g., pick-up trucks) that frequently entering and exiting Project work sites shall be inspected and washed on an as-needed basis. Tools, such as chainsaws, hand clippers, pruners, etc. shall be cleaned of dirt and mud before entering Project work sites. All equipment, vehicles, and tools shall be washed off-site when possible. If off-site washing is infeasible, on-site cleaning stations shall be set up at specified locations to clean equipment, vehicles, and tools before entering unpaved work sites. Wash stations are to be located a minimum of 100 feet from sensitive habitats, including ESHAs and jurisdictional features (e.g., Diablo Creek, wetland habitats, or drains that convey flow to these areas). Wastewater from cleaning stations shall not be allowed to run off the cleaning station site. When equipment and vehicles are washed on-site, a daily log must be kept stating the location, date and time, type of equipment, methods used, and personnel present. The log shall contain the signature of the responsible personnel. Written or electronic logs shall be available to the County upon request.

Erosion control materials (e.g., fiber rolls or hay bales) must be certified free of weed seed before entering the Project area. The WMP must prohibit on-site storage or disposal of mulch or green waste that may contain weed material. Mulch or green waste that could contain weed material shall be removed from the site in a covered vehicle to prevent seed dispersal and transported to a licensed landfill or composting facility. The WMP shall specify guidelines for any soil, gravel, mulch, or fill material to be imported into the DCPP site or transported to an off-site location.

Monitoring. The WMP shall specify methods of survey for weeds throughout Phase 1 and Phase 2 decommissioning activities at the DCPP site. It shall also specify qualifications of botanists responsible for weed identification and monitoring. The WMP shall include a monitoring schedule to ensure timely detection and immediate control of weed infestations to prevent further spread. Surveying and monitoring for weed infestations shall occur at least two times per year throughout Phase 1 and Phase 2 activities at the DCPP site and shall coincide with the detection periods for early and late season weeds. The WMP shall also include methods for marking weed locations and recording and communicating these locations to applicable personnel. The map of weed locations (discussed above) shall be updated at least once a year.

Control. The WMP shall specify manual and chemical weed control methods to be employed. The WMP shall include only weed control measures with a demonstrated record of success for target weeds, based on the most recent information available. The plan shall describe proposed methods for promptly scheduling and implementing control activity when any weed infestation is located, to ensure effective and timely weed control. Weed infestations must be controlled or eradicated as soon

as possible upon discovery, and before they go to seed, to prevent further spread. All proposed weed control methods must minimize the extent of any disturbance to native vegetation, limit ingress and egress to defined work areas and access routes and avoid damage from herbicide use or other control methods to any environmentally sensitive resources in or adjacent to the DCPP site.

Any new weed infestations shall be treated at a minimum of at least once annually until eradication, suppression, or containment goals are met. For eradication, when no new seedlings or resprouts are observed for 3 consecutive, normal rainfall years, or 5 consecutive years regardless of rainfall, the weed occurrence can be considered eradicated and weed control efforts may cease.

Manual control shall specify well-timed removal of weeds or their seed heads with hand tools. Seed heads and plants shall be disposed of in accordance with the most recent guidelines from the County of San Luis Obispo Department of Agriculture/ Weights and Measures.

The chemical control section of the WMP shall include specific and detailed plans for any herbicide use. It must indicate where herbicides will be used, which herbicides will be used, and specify techniques to be used to avoid drift or residual toxicity to native and special-status vegetation consistent with any San Luis Obispo County Department of Agriculture/Weights and Measures guidelines. All herbicide applications shall follow US Environmental Protection Agency label instructions and be completed in accordance with federal, state, and local laws and regulations. Herbicide treatment shall only be implemented by a Licensed Qualified Applicator with the appropriate County permits. Herbicides shall not be applied during or within 72 hours of predicted rain or when wind velocities exceed 6 miles per hour. Only water-safe herbicides shall be used within 100 feet of channels (whether engineered or not) or Diablo Creek or other riparian or wetland features at the DCPP site.

Reporting. The WMP shall specify County-approved report contents and schedule requirements.

BIO-5 **Prepare and Implement a Biological Resources Adaptive Management Plan.** The Applicant or its designee shall prepare and implement a Biological Resources Adaptive Management Plan. The Plan shall provide a discussion of baseline biological conditions including sensitive vegetation communities and special-status species that have been recorded or could potentially occur at the DCPP site along with an overview of existing and relevant mitigation measures prepared for the Project. The Plan shall also provide direction to maintain compliance with existing mitigation measures and federal, state, and local laws and regulations should CDFW, USFWS, and/or National Marine Fisheries Service (NMFS) status designations for sensitive vegetation communities and special-status species change over the duration of the Project. The Plan shall be submitted to the County of San Luis Obispo Planning and Building Department (County) within 3 years of initial ground disturbance at the DCPP site for review and approval. At a minimum, the Plan shall include the following conditions which shall be conducted every 5 years following initial ground distur-

bance at the DCPP site and continued throughout the duration of long-term Project operations.

- A literature review of relevant reports/databases (e.g., IPaC, CNDDB, CNPS, CCH, iNaturalist, eBird) to identify current sensitive vegetation communities and special-status species (as defined by the most recent status designations during the time of the review) that have been recorded in the vicinity (e.g., within 5 miles) of the DCPP site.
- Surveys for current sensitive vegetation communities and special-status plants and wildlife species (as defined by the most recent status designations during the time of the surveys) present or with the potential to occur in or near the DCPP site. Surveys shall be conducted according to the most recent CDFW, USFWS, and/or NMFS protocols. If survey protocols have not been established, the Applicant or its designee shall employ standard survey practices in coordination with the County.
- A report shall be prepared and submitted to the County every 5 years after initial ground disturbance at the DCPP site that includes methods and results from the literature review and surveys discussed above. The report shall also include relevant photographs and maps documenting any new occurrences of sensitive vegetation communities or special-status species (as defined by the most recent status designations during the time of the resource/database review and surveys) observed or identified.
- If newly designated sensitive habitats or special-status species are present during surveys, the County shall be immediately notified, and standard practices and protection measures shall be implemented in coordination with the County to avoid potential impacts. No handling of federal or state listed plants or wildlife shall occur without the applicable regulatory permits.

Based on post-decommissioning activities at the DCPP site, the frequency and responsibility of Plan management and implementation may be modified upon mutual agreement between the Applicant or its designee and the County. These modifications may include reducing the Applicant or its designee's responsibility to only the revised Owner-Controlled Area, transferring responsibility to a third party responsible for operations at the Marina facilities, or other management and implementation procedures as agreed upon.

BIO-6 **Install "No Entry" Signage at DCPP.** Prior to the removal of the Avila Gate Guard House Facilities located at the intersection of Diablo Canyon Road and Avila Beach Drive, the Applicant or its designee shall install permanent signage along the open space boundary adjacent to Diablo Canyon Road/Diablo Ocean Drive and surrounding the Marina facilities informing the public of the area's biological sensitivity and identifying areas closed to public access. Specific content and placement of the signage shall be approved by the San Luis Obispo Planning and Building Department prior to installation. The signage shall be installed in a manner that is clearly visible to the public utilizing the Marina facilities. The signs shall be corrosion resistant and a minimum of 12 inches by 18 inches in size. The signs shall be attached to non-

corrosive metal posts, not less than 3 feet in height from the ground surface. Evidence that the permanent signs have been installed shall be submitted to the County of San Luis Obispo Planning and Building Department within 30 days prior to removal of the Avila Gate Guard House Facilities.

EM-2 Project Plan, Updating, Tracking, and Reporting. See Section 3.

HWQ-1 Prepare and Implement Drainage Plans. See Section 4.11.

HWQ-2 Long-Term Erosion and Sediment Control Plan. See Section 4.11.

Impact BIO-2: Establish and/or spread of noxious and invasive weeds or invasive wildlife species (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

Implementation of Phase 1 has the potential to result in the spread or colonization of non-native weeds or invasive wildlife species. Several invasive or noxious weeds, as defined by CAL-IPC already exist within or near the DCPP site, some in well-established occurrences and often associated with a source of disturbance such as past vegetation clearance and grazing (see Appendix E1). Invasive mollusks, including New Zealand mudsnails (*Potamopyrgus antipodarum*), zebra mussels (*Dreissena polymorpha*), and quagga mussels (*D. bugensis*), have been found in many lakes and river systems in California, and can outcompete and reduce the number of native aquatic invertebrates that a watershed's fauna rely on for food. Although not known from the Irish Hills Watershed, New Zealand mudsnail has been identified within the Nacimiento River in San Luis Obispo County (US Geological Survey [USGS], 2022). To date, CDFW reports indicate that quagga mussels have been contained to Southern California waterbodies, and zebra mussels have been found as far north as the San Justo Reservoir in Central California (CDFW, 2020).

Direct impacts would occur if non-native or invasive species are introduced or spread on the site during vegetation clearing, demolition, or grading. Indirect impacts would occur if these species were to become established and colonize in adjacent areas overtime. Heavy equipment that has been exposed to invasive species could inadvertently introduce these species if soils or plant material is imported from other sites. Invasive species can degrade native habitats, ESHAs, or riparian areas in adjacent areas. The primary threat for the spread of invasive or noxious weeds into the DCPP site would occur during excavation of the SE Borrow Site, expansion of the road leading to the SE Borrow Site, removal of the Discharge Structure, and demolition of the existing Firing Range. The demolition and removal of developed features would expose soils that could also promote the emergence of invasive and noxious weeds if introduced during Phase 1 activities. Such impacts could be associated with the transport of weed seeds or plant parts on vehicles and equipment from outside areas into the Project area. The Proposed Project includes washing all vehicles and equipment prior to entering work areas and utilizing materials that are certified weed-free to limit the introduction and spread of noxious and invasive weeds (AC BIO-8, *Noxious Weed Prevention*).

Indirect impacts could also occur if the upgraded or new septic system associated with the East Canyon Area were to fail resulting in leaching of materials, such as nitrogen and potassium, that provide nutrients and promote soil conditions conducive to the spread of invasive and noxious weeds. For example, weeds are adapted to rapidly take up the nutrients that are released in organic matter and many germinate in response to the presence of nitrate which is used as a cue to indicate the absence of competition (Cornell University, 2018). However, because any upgrades would improve the existing system, which has been in use since circa 1968, the potential risk of failure would be substantially reduced relative to current conditions. Further, the installation of a new system would result in even a greater reduction of potential risks associated with failure of the system.

Although invasive mollusks are not currently known from the Project area, they have been detected in California waters and pose a risk to native species if introduced. These species can survive multiple days out of water. Therefore, the primary risk would be transport from an infested area to the DCPP site via unwashed vehicles or equipment. Pumps or other equipment that have been operated in water supporting these species would require cleaning to prevent the spread of these organisms to the DCPP site.

As part of the Proposed Project, PG&E would delineate work limits, prohibit staging of equipment within 100 feet of aquatic resources, conduct vehicle and equipment inspections to address the potential introduction and spread of noxious and invasive species (AC BIO-4, *Site Maintenance and General Operations*, and AC BIO-8, *Noxious Weed Prevention*).

Impacts from noxious and invasive species would be significant without mitigation. MM BIO-1 (*Prepare and Implement a Worker Environmental Awareness Program [WEAP]*) and MM BIO-4 (*Prepare and Implement a Weed Management Plan*) would be required to reduce noxious and invasive species. The worker training program would inform workers of required measures to reduce bringing noxious or invasive species onto the DCPP site. The Weed Management Plan requires construction practices that reduce potential for noxious and invasive species as well as monitoring and reporting to ensure proper implementation. These measures would ensure that impacts are reduced to less than significant (Class II).

Railyards

Impacts from the introduction or establishment of non-native and invasive species at the PBR and SMVR-SB sites would be similar but of a lesser magnitude when compared to the DCPP site. The largest risk to native species is the introduction and spread of noxious and invasive species at Pismo Creek, which is located adjacent to the PBR site. The SMVR-SB railyard is located in a heavily disturbed area adjacent to agricultural and developed areas. Non-native weeds are common in these areas. However, the introduction of non-native weeds and other species could pose a risk to agricultural lands or make their way to the Guadalupe Lake, located approximately 350 feet south of the SMVR-SB site, or other sensitive resource areas.

However, since Proposed Project activities would be primarily conducted within developed portions of the PBR and SMVR-SB sites, impacts from the introduction and spread of noxious and invasive weeds would be less than significant and no additional mitigation is required (Class III).

Phase 2

Direct and indirect impacts to native species from the introduction and spread of invasive or non-native species during Phase 2 would be similar to those described for Phase 1 (see Phase 1 discussion).

Grading, soil remediation, and other construction or demolition activities would require the use of large equipment, pumps, and other devices that could introduce or spread non-native or exotic species if the equipment is unwashed or carries soil from off-site locations. The level of exposed soils occurring at the DCPP site during Phase 2 would also increase the potential for the introduction and spread of noxious and invasive weeds as many weeds are pioneering species that quickly become established on disturbed soils.

Impacts from non-native and invasive species would be significant without mitigation. The same mitigation measures listed for the DCPP site under Phase 1 would be needed in Phase 2 to ensure that impacts are reduced to less than significant (Class II).

Post-Decommissioning Operations

New Facility Operations. Upon completion of Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Post-decommissioning activities would also include periodic tree trimming and brush removal to maintain defensible space around building and access roads in compliance with CAL FIRE/County requirements. These activities would be minimal and would only be performed to maintain compliance with CAL FIRE and County regulations. While it is possible that vehicles could transport non-native and invasive weed seeds and parts, it would not be at a level that would exceed current operations at the DCPP site since all post-decommissioning operations would occur within fully developed areas. Therefore, impacts would be considered less than significant, and no mitigation is required (Class III).

Future Actions. There would be no ground disturbance associated with continued operations of the Marina area. During operations, it is possible that vehicles and watercraft could introduce non-native and invasive species if transported from offsite areas. However, the level of activity anticipated during third-party use of the Marina is not expected to exceed current operations at the DCPP site. Therefore, impacts would be considered less than significant, and no mitigation is required (Class III).

Mitigation Measures for Impact BIO-2.

BIO-1 Prepare and Implement a Worker Environmental Awareness Program (WEAP)

BIO-4 Prepare and Implement a Weed Management Plan

Impact BIO-3: Result in the loss, harm, injury, harassment, or potential mortality of common terrestrial wildlife (Class III: Less than Significant).

Phase 1

DCPP Project Site

The DCPP consists of a large, developed area supporting numerous structures, parking areas, boat dock, and energy related infrastructure. Small pockets of native vegetation are present near parking areas, adjacent to buildings and along the coastal bluffs. These areas support a variety of more disturbance-tolerant species, which includes insects, small mammals, reptiles, and birds. The adjacent natural lands and the Irish Hills support a broader assemblage of common wildlife and provide suitable habitat for a number of resident and migratory species (see Section 4.3.1).

Vegetation removal associated with the expansion of the road and excavation of the SE Borrow Site, removal of the Discharge Structure, and demolition of the existing Firing Range during Phase 1 would result in direct impacts from the temporary displacement of native wildlife species that utilize habitat in these areas. Because much of the DCPP site is developed, impacts would be relatively low compared to the acreage of similar habitats available in the region. Many species, such as raptors or larger mammals, typically exhibit broader ranges and would likely move out of the immediate area during Phase 1 activities. Smaller or less mobile animals would be more susceptible to the temporary loss of habitat. As part of the Proposed Project, PG&E has developed a Discharge Structure Demolition and Restoration Plan (see Table 2-2) that includes requirements to be implemented for topsoil salvage and replanting during Phase 1 of the terrestrial portion of the Discharge Structure restoration area.

Phase 1 activities could result in direct impacts from mortality or injury to wildlife due to crushing by vehicles or heavy equipment, particularly if slow-moving or sedentary animals occur in work areas or along roads to and within the DCPP site. However, road traffic that is anticipated during Phase 1, would be less than the number of vehicles that are present for daily operation at the DCPP. More mobile species, such as birds and larger mammals, would be expected to disperse into nearby habitats during most Phase 1 activities. Although ground-dwelling invertebrates, diurnal reptiles, and small mammals are the most likely species to be subject to crushing or entrapment, amphibians can also be particularly vulnerable because many species disperse across uplands between aquatic resources, are small and inconspicuous, and are usually slow in movement. This type of mortality can have detrimental effects on local populations if the loss is continual (Trombulak and Frissell, 2000). Common bat species could potentially utilize existing structures for roosting habitat and be crushed during demolition. Small and less-mobile wildlife species could also be subject to mortality or injury from entrapment in open trenches and excavations or entanglement in netting materials. As part of the Proposed Project, PG&E would establish speed limits on unpaved roads, require exit ramps and inspections at open excavations, and prohibit plastic monofilament netting on materials (AC BIO-4, *Site Maintenance and General Operations*, and AC BIO-5, *General Wildlife Protection*).

Fugitive dust and noise from clearing, grading, and demolition activities would directly impact common wildlife in adjacent habitats including Diablo Creek and the oak woodlands by interfering with breeding or foraging activities, disrupting movement patterns, and causing animals to avoid areas adjacent to the demolition zone. PG&E identified fugitive dust controls and truck and construction noise measures as part of their Proposed Project (AC AQ-1, *Minimize Fugitive Dust*, and AC NOI-2, *Reduce Construction Noise*). Common wildlife species could be subject to injury or mortality if interactions with accidentally spilled or improperly contained hazardous materials occur, including potential lead ingestion at the existing Firing Range. As presented in Table 2-2 of the Project Description, PG&E has included preparation of a SPCC plan. This plan would address the accidental release of hazardous materials and countermeasures to contain, cleanup, and limit the effects of an accidental release of oil and oil-based products.

Indirect impacts would occur if common wildlife species are displaced due to the degradation of habitat from the introduction and spread of noxious and invasive species. Such impacts could be associated with the transport of weed seeds or plant parts on vehicles and equipment from outside areas into the Project area. The Proposed Project includes washing all vehicles and equipment prior to entering work areas and utilizing materials that are certified weed-free to limit the introduction and spread of noxious and invasive weeds (AC BIO-8, *Noxious Weed Prevention*).

Indirect impacts could also occur if the upgraded or new septic system associated with the East Canyon Area were to fail resulting in leaching of materials, such as nitrogen and potassium, that provide nutrients and promote soil conditions conducive to the spread of invasive and noxious weeds. For example, weeds are adapted to rapidly take up the nutrients that are released in organic matter and many germinate in response to the presence of nitrate which is used as a cue to indicate the absence of competition (Cornell University, 2018). However, because any upgrades would improve the existing system, which has been in use since circa 1968, the potential risk of failure would be substantially reduced relative to current conditions. Further, the installation of a new system would result in even a greater reduction of potential risks associated with failure of the system.

Although the risks relative to current conditions would be reduced, indirect impacts as a result of failure of the septic system could also include degradation of water quality for common aquatic wildlife species. Generally, properly installed, sited, and maintained septic systems should not adversely affect water quality. If a failure of the system results in a discharge directly into surface waters, increased levels of nitrogen and phosphorus could cause algal blooms (USEPA [United State Environmental Protection Agency], 2022). An overgrowth of algae can consume oxygen and block sunlight, resulting in mortality to fish and other aquatic organisms. Any upgrades to the existing septic system, or installation of a new system, would be implemented to ensure consistency with County ordinances related to sewage disposal systems and wastewater management (e.g., Titles 19 and 22), including setbacks from surface waters.

With the exception of nesting birds, which are protected by State and federal regulations and described under Impact BIO-4, impacts to common wildlife are generally not considered significant under CEQA. Impacts to common wildlife would be less than significant and no further mitigation is required (Class III).

Although no further mitigation is required, the implementation of MM AQ-1 (*Implement a Decommissioning Activity Management Plan [DAMP]*), MM BIO-1 (*Prepare and Implement a Worker Environmental Awareness Program [WEAP]*), MM BIO-2 (*Prepare and Implement a Habitat Restoration and Revegetation Plan*), MM BIO-3 (*Implement Oak and Native Mature Tree Protection Measures*), MM BIO-4 (*Prepare and Implement a Weed Management Plan*), MM BIO-9 (*Conduct Biological Monitoring and Reporting*), MM BIO-10 (*Implement Wildlife Impact Avoidance and Minimization Measures*), MM BIO-20 (*Conduct Preconstruction Surveys for Roosting Bats and Implement Avoidance Measures*) (see Impact BIO-6), and MM EM-2 (*Project Plan Updating, Tracking, and Reporting,* specifically for the DAMP required under MM AQ-1, Habitat Restoration and Revegetation Plan required under MM BIO-2, and Weed Management Plan required under MM BIO-4) would further reduce impacts to common wildlife. These measures include worker training, restoration of habitat, minimizing impacts to trees, weed and dust control, surveys and monitoring, and tracking and enforcement of plans developed as part of the Proposed Project, among other protective requirements.

Railyards

Pismo Beach Railyard. Although the PBR site is primarily developed, native vegetation that occurs in patches within the site, and as broader communities in adjacent areas, provides suitable breeding and foraging habitat for a variety of common wildlife species. Common bat species may utilize existing structures as suitable roosting sites.

Vegetation removal and grading activities would not be required as part of the modifications at the PBR site. Structures that could provide potential roosting habitat for common bat species would also be left intact. Therefore, direct impacts from loss of habitat or roosting sites would not occur. Common wildlife would be directly impacted if injured or killed by crushing, entrapment, or entanglement during rail spur refurbishments or use of the site. These impacts would be similar to those discussed for the DCPP site but would be substantially reduced due to the level of activity that would occur at the PBR site. Increased levels of noise that disrupt normal behaviors or lead to habitat abandonment would result in direct impacts. Although noise levels are anticipated to slightly increase from ambient conditions during modifications at the PBR site, they would be short-term and temporary. Direct impacts would also occur if animals were to interact with hazardous materials that are inadvertently spilled or leaked. Since modifications and use would be primarily conducted within developed portions of the PBR site, impacts to common wildlife from exposure to fugitive dust would not occur.

Indirect impacts resulting from the introduction of noxious and invasive species would also be similar to those discussed for the DCPP site but would be substantially reduced in magnitude. Pismo Creek would be a particular area of concern if noxious weeds or invasive mollusks were to be accidentally introduced. However, because common wildlife species are typically not afforded protection under CEQA and since Proposed Project activities would be primarily conducted within developed portions of the PBR site, impacts from to common wildlife would be less than significant and no additional mitigation is required (Class III).

Although no mitigation is required, the implementation of some of the same mitigation measures listed for the DCPP site, including MM BIO-9 (*Conduct Biological Monitoring and Reporting*), MM BIO-10 (*Implement Wildlife Impact Avoidance and Minimization Measures*), and

MM BIO-20 (*Conduct Preconstruction Surveys for Roosting Bats and Implement Avoidance Measures*) (see Impact BIO-6) would further reduce impacts to common wildlife.

SMVR-SB. Similar to the PBR site, the SMVR-SB site is primarily located on developed land. However, patches of native scrub vegetation at the SMVR-SB site may provide suitable habitat for some urban-tolerant wildlife species.

Vegetation removal and grading activities would not be required as part of the modifications at the SMVR-SB site. Structures that could provide potential roosting habitat for common bat species would also be left intact. Therefore, direct impacts from loss of habitat or roosting sites would not occur. Direct impacts from injury or mortality, increased noise, and interaction with hazardous materials would be similar to those discussed for the PBR site. The installation of temporary site lighting at the SMVR-SB site would result in additional direct impacts if nocturnal wildlife behaviors are disrupted or if nearby dens or burrows are abandoned. Indirect impacts from the introduction of noxious and invasive species would be similar to those discussed for the PBR site. Impacts to common wildlife at the SMVR-SB site would be less than significant and no mitigation is required (Class III).

Although no mitigation is required, the implementation of some of the same mitigation measures listed for the DCPP site, including MM BIO-9 (*Conduct Biological Monitoring and Reporting*), MM BIO-10 (*Implement Wildlife Impact Avoidance and Minimization Measures*), and MM BIO-20 (*Conduct Preconstruction Surveys for Roosting Bats and Implement Avoidance Measures*) (see Impact BIO-6) would reduce impacts to common wildlife.

Phase 2

Direct impacts to common terrestrial wildlife during Phase 2 would be similar in type to those described for Phase 1; however, the majority of impacts associated with the temporary loss of habitat would be completed during vegetation removal activities under Phase 1 (see Phase 1 discussion). During Phase 2, grading and fill activities would be primarily focused on backfilling voids created by the demolition of DCPP structures and restoring the DCPP site to a natural condition that promotes positive drainage. The process of removing the Discharge Structure and completing associated restoration would continue in Phase 2 (see Phase 1 discussion). If any clearing of previously undisturbed areas is required, topsoil would be removed and stockpiled. For Phase 2, PG&E would prepare a Revegetation Plan as part of the Proposed Project (see Section 2.4.4*, Grading and Landscaping [Final Site Restoration*]) that would apply to all temporary disturbance areas and the demolition zone. Upon completion of grading to natural contours, areas would be revegetated to establish native vegetation that is consistent with adjacent wildlife habitat.

Direct impacts from crushing, entrapment, and entanglement would be reduced in magnitude during Phase 2 since most vegetation removal would be completed. Similarly, direct impacts associated with increased levels of noise and exposure to hazardous materials would be reduced in magnitude during Phase 2. However, the potential for fugitive dust and the introduction and spread of noxious weeds would likely increase during Phase 2 activities as the majority of hard-scape features at the DCPP site would be removed resulting in a greater level of exposed soils.

Indirect impacts during Phase 2 would also include degradation of habitat for common aquatic wildlife if natural hydrology of the site is altered in such a way as to adversely affect adjacent vegetation communities due to increased long-term erosion and sedimentation, altered on-site drainage patterns, or additional runoff that would exceed capacity of stormwater conveyance. As part of the Proposed Project's site restoration and pursuant to Section 23.05.042 (Drainage Plan Required) of the San Luis Obispo County Code, a SWMP would be prepared prior to the issuance of any grading or building permits (see Section 2.4.5, *Long-Term Stormwater Management*). The SWMP would require low-impact, long-term design techniques to manage stormwater from the site over the period of time required for revegetation to establish and to minimize potential impacts to Diablo Creek and other unnamed drainages at the DCPP site.

Because common wildlife species are typically not afforded protection under CEQA, impacts to common wildlife would be less than significant, and no mitigation is required (Class III).

Although no mitigation is required, PG&E would implement the same mitigation measures during Phase 2 as those listed for the DCPP site under Phase 1 to reduce impacts to common wildlife.

Post-Decommissioning Operations

New Facility Operations. Upon completion of Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Some common species, including urban-tolerant birds and bats may utilize structures in these facilities for nesting and/or roosting sites. These species may be subject to periodic increases in noise and human presence. However, new facility operations would be performed within fully developed areas and would involve a maximum of 50 workers. These activities are not anticipated to exceed current operations at the DCPP site. Post-decommissioning activities would also include periodic tree trimming and brush removal to maintain defensible space around building and access roads in compliance with CAL FIRE/County requirements. These activities would be minimal and would only be performed to maintain compliance with CAL FIRE and County regulations. As previously mentioned under the discussion for Phase 1 above, common wildlife species do not receive protection under CEQA. Therefore, no impacts would occur, and no mitigation is required.

Future Actions. During operations, members of the public would be permitted to explore the Marina area. Further, the public would have access uncontrolled along Diablo Canyon Road between the Marina and the former Avila Gate Guard House Facilities. It is possible that third-party use could result in direct impacts to common wildlife if animals are injured or killed from collisions with vehicles or if natural behaviors, such as foraging or breeding, are disrupted during use of the facilities. However, the level of activity anticipated during third-party use of the Marina is not expected to exceed current operations at the DCPP site and, as previously mentioned under the discussion for Phase 1 above, common wildlife species do not receive protection under CEQA. Therefore, no impacts would occur, and no mitigation is required.

Mitigation Measures for Impact BIO-3. No mitigation is required.

Impact BIO-4: Result in loss or disturbance to nesting or breeding birds or raptors (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

With the exception of a few non-native birds, such as European starling (*Sturnus vulgaris*) and house sparrow (*Passer domesticus*), the loss of active bird nests or young is regulated by the Federal Migratory Bird Treaty Act (MBTA) and Fish and Game Code Section 3503. A discussion of potential impacts to special-status bird species is presented under Impact BIO-6. Although nesting bird surveys were not conducted and active nests were not observed during 2020 through 2022 surveys, they likely occur on the existing structures, in native vegetation adjacent to parking areas, on open ground, and within the oak woodlands and scrub habitats throughout the DCPP site. Nesting birds are also expected to occur in the riparian habitats associated with Diablo Creek and isolated wetlands associated with artesian springs and unnamed drainages at the site.

Developed areas at the DCPP site provide suitable breeding and nesting habitat for many common avian species, such as house finch, song sparrow, mourning dove that are tolerant of urbanized environments. Depending on the species, birds may actively nest on the ground close to equipment, on spoil piles, or idle construction equipment. Birds have been documented nesting on vehicles, foundations, construction trailers, and equipment left overnight or during the weekend. As part of the Proposed Project, PG&E would conduct surveys with a qualified biologist prior to the initiation of Phase 1 activities and establish avoidance buffers for active nests (AC BIO-8, *Preconstruction Surveys for Nesting Birds*). PG&E would also provide worker training and biological monitoring by qualified personnel (AC BIO-1, *Worker's Environmental Awareness Training – Biological Resources* and AC BIO-6, *Biological Resources Monitoring Plan*).

The DCPP site provides foraging, cover, and breeding habitat for a variety of resident and migratory non-pelagic bird and raptor species. Most of Phase 1 activities would occur in developed areas that include existing structures and facilities. However, direct impacts to nesting birds would occur from the removal of native vegetation communities that provide suitable habitat during excavation of the SE Borrow Site, removal of the Discharge Structure, and demolition of the existing Firing Range. The majority of direct impacts to suitable nesting bird habitat from vegetation removal would be temporary as most areas would be restored to natural conditions; however, permanent impacts would occur from the expansion of the access road to the SE Borrow Site. This portion of Skyview Road/Ranch Road would be permanently expanded from 12 feet to approximately 20 feet by adding graded aggregate base/crushed rock to each side. Road expansion activities would result in the permanent removal of approximately 0.45 acre of native and non-native vegetation. Any permanent impacts would be offset through the revegetation and restoration of previously developed areas (see Figure 2-36). For example, the existing Firing Range, which has an area of approximately 3.17 acres, would be restored to correspond with adjacent communities of native and non-native vegetation. Although the expansion of the access road to the SE Borrow Site would require trimming of coast live oaks

and other trees that support suitable nesting bird habitat, road limits would be adjusted to avoid the removal of any trees.

As part of the Proposed Project, PG&E has developed a Discharge Structure Demolition and Restoration Plan that would be implemented for revegetation and restoration of the terrestrial area associated with the removal of the Discharge Structure during Phase 1 (see Table 2-2). This plan would include requirements for topsoil salvage and replanting for the terrestrial portion of the Discharge Structure restoration area. This area is primarily dominated by coastal bluff scrub that provides valuable habitat for a number of native avian species. PG&E would also be required to comply with tree removal standards listed under Section 23.05.064 of the Coastal Zone Land Use Ordinance. These standards include tagging of trees to be removed and compliance with removal and replacement criteria.

Elevated levels of fugitive dust and noise would result in direct impacts from the displacement of breeding birds and the abandonment of nests if conducted during the breeding season. Breeding birds may temporarily or permanently leave their territories to avoid these activities, which could lead to reduced reproductive success and increased risk of nest failure. The Proposed Project includes commitments to ensure that fugitive dust and construction noise are limited (AC AQ-1, *Minimize Fugitive Dust*, and AC NOI-2, *Reduce Construction Noise*).

Many avian species are closely associated with or dependent upon specific habitat types. Indirect impacts would occur if noxious and invasive weeds become introduced or spread into adjacent habitat including Diablo Creek and displace native vegetation that is the preferred or obligate habitat for these species. To reduce the potential for impacts from noxious and invasive weeds, PG&E has included requirements for cleaning vehicles and equipment prior to entering work sites and utilizing materials that are certified weed-free as part of the Proposed Project (AC BIO-8, *Noxious Weed Prevention*). Indirect impacts could also occur if the upgraded or new septic system associated with the East Canyon Area were to fail resulting in leaching of materials, such as nitrogen and potassium, that provide nutrients and promote soil conditions conducive to the spread of invasive and noxious weeds. For example, weeds are adapted to rapidly take up the nutrients that are released in organic matter and many germinate in response to the presence of nitrate which is used as a cue to indicate the absence of competition (Cornell University, 2018). However, because any upgrades would improve the existing system, which has been in use since circa 1968, the potential risk of failure would be substantially reduced relative to current conditions. Further, the installation of a new system would result in even a greater reduction of potential risks associated with failure of the system.

Impacts to nesting birds or raptors would be significant without mitigation. Implementation of MM BIO-7 (*Prepare and Implement a Nesting Bird Management Plan*) would be required to reduce impacts. Additionally, PG&E would implement MM AQ-1 (*Implement a Decommissioning Activity Management Plan [DAMP]*), MM BIO-1 (*Prepare and Implement a Worker Environmental Awareness Program [WEAP]*), MM BIO-2 (*Prepare and Implement a Habitat Restoration and Revegetation Plan*), MM BIO-3 (*Implement Oak and Native Mature Tree Protection Measures*), MM BIO-4 (*Prepare and Implement a Weed Management Plan*), and MM EM-2 (*Project Plan Updating, Tracking, and Reporting*, specifically under the Nesting Bird Management Plan required under MM BIO-7, the DAMP required under MM AQ-1, the Habitat Restoration and

Revegetation Plan required under BIO-2, and the Weed Management Plan required under MM BIO-4) to ensure that impacts are reduced to less than significant (Class II).

These measures would provide protections for nesting birds and raptors through the implementation of a County-approved Nesting Bird Management Plan (NBMP) and worker training program, habitat avoidance and restoration, biological surveys and monitoring, dust and weed controls, and tracking and enforcement of plans developed as part of the Proposed Project, among other protective requirements.

Railyards

Pismo Beach Railyard. The PBR site is mostly developed and is regularly subject to disturbance from current operations. Nonetheless, buildings, railcars, and other structures provide suitable nesting habitat for urban-tolerant avian species. Suitable nesting habitat also occurs within the patches of native woodland and scrub communities that occur at the PBR site. Birds that are associated with riparian habitats can likely be found nesting along Pismo Creek immediately adjacent to the site. Open space to the north of the site provides suitable foraging habitat for a variety of native birds and raptors.

The PBR site does not require demolition work, substantial ground-disturbance, or vegetation removal. Therefore, impacts from the loss of nesting and foraging habitat would not occur. The remaining impacts to nesting birds would be similar in type to those discussed for the DCPP site but would be substantially reduced in magnitude. Although activities at the railyards would be minimal relative to the DCPP site, the potential for the destruction of nests or eggs would still occur. For example, house finch, a species observed at the PBR site, commonly establish nests on structures within urban environments and could use railcars or temporary structures for nesting sites. In addition, killdeer, which was also observed at the PBR site, are ground-nesting birds that establish inconspicuous nesting sites often on top of gravel-based substrates. Direct impacts would occur if nests or eggs are destroyed during activities associated with loading and unloading materials at the PBR site.

Birds that nest in and around the PBR site are likely to be more habituated to noise and human presence compared to species found in more isolated areas. The PBR site is currently subject to daily disturbance from periodic rail traffic and other human activities. Modifications and use of the site would be short-term and temporary and are not anticipated to result in a substantial increase in noise that would adversely affect nesting birds. Nonetheless, direct impacts would occur if nest sites or breeding territories are abandoned as a result of increased levels of noise. Since modifications and use would be primarily conducted within developed portions of the PBR site, impacts to nesting birds from exposure to fugitive dust would not occur. Indirect impacts would include the degradation of nesting and foraging habitat from the introduction and spread of noxious weeds.

Impacts would be significant without mitigation. The implementation of some of the same mitigation measures listed for the DCPP site during Phase 1, including MM BIO-1 (*Prepare and Implement a Worker Environmental Awareness Program [WEAP]*), and MM BIO-7 (*Prepare and Implement a Nesting Bird Management Plan*) would ensure that impacts are reduced to less than significant (Class II).

SMVR-SB. The SMVR-SB site is primarily developed and subject to routine disturbance during current storage and rail operations. Suitable nesting habitat for avian species occurs within the existing structures and the various undeveloped private lands that surround the site. Adjacent agricultural fields, grasslands, and detention basins support suitable foraging habitat for numerous birds and raptors.

The SMVR-SB site does not require demolition work, substantial ground-disturbance, or vegetation removal. Therefore, impacts from the loss of nesting and foraging habitat would not occur. Direct and indirect impacts would include the destruction of nests or eggs, disturbance from increased noise, and degradation of habitat from the introduction and spread of noxious and invasive weeds. Additionally, installation of the new rail spur and road base could result in increased levels of fugitive dust. Direct impacts would occur if nesting birds abandon nest sites or breeding territory from exposure to fugitive dust. PG&E would minimize fugitive dust with the implementation of specified fugitive dust controls (AC AQ-1, *Minimize Fugitive Dust*). Use of temporary site lighting would result in direct impacts if birds abandon or avoid nesting sites or suitable breeding territories due to excess illumination. Artificial light can change birds' perception of habitat quality, resulting in selection or avoidance of illuminated areas (Adams et al., 2021).

Impacts to nesting birds would be significant without mitigation. Implementation of some of the same mitigation measures listed for the DCPP site during Phase 1, including MM BIO-1 (*Prepare and Implement a Worker Environmental Awareness Program [WEAP]*), and MM BIO-7 (*Prepare and Implement a Nesting Bird Management Plan*) in addition to MM AES-1 (*SMVR Lighting Guidelines*), which includes requirements to prevent a measured increase in illumination onto adjacent properties, would ensure that impacts are reduced to less than significant (Class II).

Phase 2

The majority of vegetation removal and tree trimming would be completed during Phase 1. Therefore, direct impacts to nesting birds resulting from the temporary loss of habitat would be similar in type but substantially reduced in magnitude during Phase 2. The process of removing the Discharge Structure and completing associated restoration of the terrace and upland habitat would continue in Phase 2 (see Phase 1 discussion). If any clearing of previously undisturbed areas is required, topsoil would be removed and stockpiled. For Phase 2, PG&E would also prepare a Revegetation Plan as part of the Proposed Project (see Section 2.4.4*, Grading and Landscaping [Final Site Restoration*]) that would apply to temporarily disturbed areas that support potential nesting bird habitat.

It is expected that ground-nesting or disturbance-tolerant species would continue to nest at the site, within construction equipment, or in adjacent habitats during Phase 2. Direct impacts would occur if nests or eggs are destroyed or breeding behaviors are disrupted from construction noise during Phase 2 activities; however, these impacts would also be substantially reduced in magnitude relative to Phase 1 since most of vegetation and structures that could support nesting birds would have already been removed or demolished and the level of equipment and personnel would decline. The potential for fugitive dust and the introduction and spread of noxious weeds would likely increase during Phase 2 activities as most of hardscape features at the DCPP site would be removed resulting in a greater level of exposed soils. The same

commitments listed under Phase 1 would be required under Phase 2 as part of the Proposed Project. These include worker training, preconstruction surveys for nesting birds, biological monitoring, construction dust and noise controls, and noxious weed prevention.

Impacts to nesting birds would be significant without mitigation. With the implementation of the same mitigation measures presented for the DCPP site under Phase 1, impacts would be reduced to less than significant (Class II).

Post-Decommissioning Operations

New Facility Operations. Upon completion of Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. New facilities may provide suitable nesting sites for some urban-tolerant bird species. Birds that potentially utilize nesting sites at these facilities could be subject to periodic increases in noise and human presence. However, new facility operations would be performed within fully developed areas and are not anticipated to exceed current operations at the DCPP site. Post-decommissioning activities would also include periodic tree trimming and brush removal to maintain defensible space around building and access roads in compliance with CAL FIRE/County requirements. These activities would be minimal and would only be performed to maintain compliance with CAL FIRE and County regulations. Therefore, impacts would be less than significant, and no mitigation is required (Class III).

Future Actions. Numerous bird and raptor species would be expected to utilize the DCPP site for nesting and foraging habitat during Marina operations permitted by a third-party. Although there would be no ground disturbance or tree trimming with continued operations and the level of activity is not expected to exceed current operations at the DCPP site, it is possible that nesting birds could be directly impacted if nests or eggs are destroyed or breeding behavior is disrupted, as members of the public would be allowed to explore the Marina area. Because the public would have uncontrolled access along Diablo Canyon Road upon removal of the Avila Gate Guard House Facilities, similar direct impacts to nesting birds could occur if members of the public disrupt breeding behavior or disturb nesting sites located in habitats adjacent to the road. Over time, most species would become acclimated to the baseline level of disturbance; however, impacts would be significant without mitigation. MM BIO-6 (*Install "No Entry" Signage at DCPP*), which includes restrictions for entering unauthorized areas during future actions, would ensure that impacts are reduced to less than significant (Class II).

Mitigation Measures for Impact BIO-4.

AES-1 **SMVR Lighting Guidelines** See Section 4.1.

AQ-1 **Implement a Decommissioning Activity Management Plan (DAMP)** See Section 4.2.

BIO-1 **Prepare and Implement a Worker Environmental Awareness Program (WEAP)**

BIO-2 **Prepare and Implement a Habitat Restoration and Revegetation Plan**

BIO-3 **Implement Oak and Native Mature Tree Protection Measures**

BIO-4 Prepare and Implement a Weed Management Plan

BIO-6 Install "No Entry" Signage at DCPP

BIO-7 Prepare and Implement a Nesting Bird Management Plan Prior to submittal of any County Grading/Construction Permits related to Decommissioning, the Applicant or its designee shall prepare and implement a Nesting Bird Management Plan (NBMP). The NBMP shall describe methods to minimize potential Project effects to nesting birds and avoid any potential for unauthorized take. No Phase 1 or Phase 2 activities at the DCPP, PBR, or SMVR-SB site shall proceed within 300 feet of active nests for common bird species or within 500 feet for raptors or special-status bird species until approval of the NBMP by the County of San Luis Obispo Planning and Building Department (County) in consultation with CDFW and USFWS. The NBMP shall include the following components:

NBMP Content. The NBMP shall include: (1) definitions of default nest avoidance buffers for each species or group of species, depending on characteristics and conservation status for each species; (2) a notification procedure for buffer distance reductions should they become necessary; (3) a rigorous monitoring protocol, including qualifications of monitors, monitoring schedule, and field methods, to ensure that any Project-related effects to nesting birds will be minimized; and (4) a protocol for documenting and reporting any inadvertent contact or effects to birds, nests, or eggs. The approved NBMP shall be referenced in all construction permit applications and plans submitted for Decommissioning activity.

The paragraphs below describe the NBMP requirements in further detail.

Background. The NBMP shall include:

- A summary of applicable State and federal laws and regulations, including definition of what constitutes a nest or active nest under State and federal law.
- A procedure for amendment of the NBMP should there be changes in applicable State or federal regulations, or as necessary for adaptive management upon approval by the County, in consultation with CDFW and USFWS.
- A list of bird species potentially nesting within or near the DCPP, PBR, or SMVR-SB sites, indicating approximate nesting seasons, nesting habitat, typical nest locations (e.g., ground, vegetation, structures, etc.), tolerance to disturbance (if known), and any conservation status for each species. This section will also note any species that do not require avoidance measures (e.g., European starling, house sparrow, etc.).
- A list of the types of Project activities through Phase 1 and Phase 2 that may occur at the DCPP, PBR, and SMVR-SB sites during the nesting season, with a short description of the noise and physical disturbances resulting from each activity.
- Clearing of any vegetation, grading, building demolition, or any other Project-related activity that may adversely affect breeding birds shall be scheduled to

avoid the breeding season (January 1 through August 31) to the maximum practicable extent.

Preconstruction Nest Surveys. Prior to any Project activities scheduled during the breeding period (January 1 through August 31), the Applicant or its designee shall conduct preconstruction surveys for nesting birds and raptors at the DCPP, PBR, and SMVR-SB sites. The NBMP shall describe the proposed field methods, survey timing, and qualifications of survey biologists. Biologist qualifications will be subject to review and approval by the County. The biologists conducting the surveys shall be experienced in survey techniques and familiar with standard nest-locating techniques. Nest surveys will focus on visual searches for nest locations and observations of bird activities and movement to detect nesting activity (e.g., carrying nest materials or food, territorial displays, courtship behavior). Surveys shall be conducted in accordance with the following guidelines:

- Surveys shall be conducted to include all impact areas at the DCPP, PBR, and SMVR-SB sites, as well as construction equipment and structures. Surveys shall extend within 500 feet of these areas for raptors and 300 feet for non-raptor species. During decommissioning activities, nest searches shall be conducted at least every 3 days during the breeding season to prevent nest starts on vehicles and equipment. If birds are found to be nesting in facility structures or construction equipment and the nests contain eggs or young, buffers as described below shall be implemented.
- Surveys shall be conducted for each of the sites no more than 4 days prior to the start of Project activities.
- Within 14 days of completion of the surveys, the Applicant or its designee shall provide the County with a report describing the findings, including the date, time, and duration of the survey; identity of the surveyor(s); a list of species observed; and electronic data identifying nest locations and boundaries of established buffer zones. The format and contents of the report will be described in the draft NBMP and will be subject to review and approval by the County.

Nest Buffers and Acceptable Activities. The NBMP shall specify measures to delineate buffer zones, to consist of clearly visible marking and signage. Buffer locations shall be communicated to the construction contractor(s) and shall remain in effect until the young have fledged or the nest is no longer active. In addition, the NBMP shall specify measures to ensure that buffers are observed, including a direct communication and decision protocol to stop work within buffer zones. In some cases, active nests may be identified after work has commenced. Therefore, the NBMP shall include a protocol for halting work within the buffer zone, securing the work site, and removing personnel and equipment from the buffer zone.

The NBMP shall identify bird species (or groups of species) that are relatively tolerant or intolerant of human activities and shall specify smaller or larger buffer zones as appropriate for each species (or groups of species).

The NBMP shall identify acceptable work activities within nest buffers (e.g., pedestrian access for inspections, drive through access only, etc.) including conditions and restrictions and any monitoring requirements.

Nest Buffer Modifications or Reductions. At times, the Applicant or its designee may propose buffer zones differing from those approved in the NBMP. Buffer adjustments shall be reviewed and approved by a qualified avian biologist who has been approved by the County in consultation with CDFW and USFWS. Nest buffer reductions requests shall require a clear rationale for why the reduction is needed, the tolerance of the bird to disturbance, and triggers to halt work should the bird show signs of distress or agitation. The NBMP shall outline a procedure and timing requirements for notifying the County of any planned adjustments to nest buffers. Separate and distinct procedures will be provided for special-status species and raptors. The NBMP will list the information to be included in the buffer reduction notifications in a standardized format for submittal to the County.

Nest Deterrents. The NBMP shall describe any proposed measures or deterrents (e.g., visual or auditory hazing devices, netting, etc.) to prevent or reduce bird nesting activity on Project facilities or equipment. It shall also include timing for installation of nest deterrents and field confirmation to prevent effects to any active nest; guidance for the contractor to install, maintain, and remove nest deterrents according to product specifications; and periodic monitoring of nest deterrents to ensure proper installation and maintenance and to prevent injury or entrapment of birds or other wildlife.

Removal of Inactive Nests. The NBMP shall specify a procedure for removal of inactive nests, including verification that the nest is inactive and a notification/approval process.

Monitoring. The Applicant or its designee shall be responsible for monitoring the implementation, conformance, and efficacy of the avoidance measures discussed above. The NBMP shall include specific monitoring measures to track any active bird nest within or adjacent to Project work areas, bird nesting activity, Project-related disturbance, and outcome of each nest. For nests with reduced buffer zones, the Applicant or its designee shall monitor each nest until the young have fledged and dispersed or until the nest is determined inactive. Active nest monitoring shall continue throughout the breeding season during each year of all Phase 1 and Phase 2 activities.

Reporting. Throughout all Phase 1 and Phase 2 activities, nest locations, Project activities in the vicinity of active nests, and any adjustments to buffer zones shall be updated and electronically submitted to the County on a weekly basis. The Applicant or its designee shall provide immediate notification to the County for all buffer reductions or nest-related non-compliance issues, including corrective actions taken or to be taken. The NBMP shall include a proposed format for providing the County with daily and weekly monitoring reports. At the conclusion of each year's breeding season, the Applicant or its designee shall submit an annual NBMP report to the

County, CDFW, and USFWS. Specific format and contents of the annual report will be reviewed and approved by the County in consultation with CDFW and USFWS.

EM-2 Project Plan Updating, Tracking, and Reporting See Section 3.

Impact BIO-5: Result in the loss or disturbance to any special-status plant species or their critical habitat (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

There were no federally- or State-listed plants detected at the DCPP site during 2021 and 2022 botanical surveys and critical habitat for federally-listed species does not occur at the site. Based on known occurrences in the general region and the absence of suitable habitat, no federally- or State-listed plant species are expected to occur. Although plant expression was considered good at the DCPP site during surveys and occurrences of non-listed special-status plants were observed, the recent drought conditions have likely limited the detectability of some annual plants in the general region.

One non-listed special-status plant species, Hoffman's sanicle, was observed at the DCPP site during botanical surveys. In addition, ocean bluff milk-vetch is assumed to be present based on the species' range and suitable habitat conditions at the DCPP site. Several additional non-listed special-status plants have the potential to occur at the DCPP site or in adjacent habitats (see Appendices E2 and E3). Hoffman's sanicle and ocean bluff milk-vetch are ranked as CRPR List 4 plants. For this analysis, impacts to a small number (i.e., a few individual plants or less than ten percent of the total occurrence) of CRPR List 4 plants would not be considered a significant impact. However, direct and indirect impacts would occur if these thresholds are exceeded or if plants that are designated as CRPR List 1B or 2 are determined to be present.

Most ground-disturbing activities during Phase 1 would occur within developed areas. However, vegetation communities that could support Hoffman's sanicle, including coyote brush scrub, California sagebrush scrub, bush monkeyflower scrub, and coast live oak woodlands would be impacted during Phase 1 vegetation removal and grading activities. The majority of direct impacts to suitable habitat for Hoffman's sanicle would be temporary as most areas would be restored to natural conditions; however, permanent impacts would occur from the expansion of the access road to the SE Borrow Site. This portion of Skyview Road/Ranch Road would be permanently expanded from 12 feet to approximately 20 feet by adding graded aggregate base/crushed rock to each side. These activities would result in the permanent removal of approximately 0.08 acre of California sagebrush scrub and 0.09 acre of coast live oak woodland understory. However, any permanent impacts would be offset through revegetation and restoration of previously developed areas (see Figure 2-36).

Coastal bluff scrub that supports suitable habitat for ocean bluff milk-vetch would be limited to temporary impacts during the removal of the Discharge Structure. As part of the Proposed Project, PG&E has developed a Discharge Structure Demolition and Restoration Plan (see Table 2-2) that would be implemented for the terrestrial area temporarily disturbed during the

removal of the Discharge Structure. This plan includes requirements for topsoil salvage and replanting of the coastal bluff scrub habitat that comprises much of the terrestrial portion of the Discharge Structure restoration area.

Direct impacts would occur if listed or CRPR List 1B or 2 are present and individual plants or their seed banks are destroyed during Phase 1 activities. Direct impacts would also occur if more than ten percent of CRPR List 4 plants or their seed banks are removed. For example, expansion of the access road and excavation of the SE Borrow Site is likely to remove Hoffman's sanicle individual plants. If present, individual ocean bluff milk-vetch plants could be destroyed during the removal of the Discharge Structure. The Proposed Project would include clearly defined work areas to restrict access of vehicles and heavy equipment outside of those areas (AC BIO-4, *Site Maintenance and General Operations*).

Special-status plants would also be directly impacted if vegetation removal and grading result in degradation of local soil conditions from increased erosion or if individual plants are destroyed or damaged from exposure to hazardous materials or excess dust. PG&E would implement several plans as part of the Proposed Project during Phase 1 activities to limit erosion, control sources of contaminants, and minimize fugitive dust (see Section 2, *Project Description (Phases 1 and 2),* Table 2-2). These plans include a site-specific Stormwater Pollution Prevention Plan (SWPPP) (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*). The SWPPP would contain BMPs designed to minimize erosion and control sediment during decommissioning activities. The Proposed Project also includes a Preliminary Erosion and Sediment Control Plan that identifies BMPs, such as perimeter controls (e.g., silt fencing and fiber rolls) and hydro-seeding, to control erosion and sedimentation from the DCPP site during grading and restoration activities (PG&E, 2020b). The SWPPP would also require site-specific BMPs to reduce or prevent the accidental release of hazardous materials and other pollutants. These would include designating areas for refueling or washing equipment, the use of secondary containment (i.e., drip pans), and requiring spill control kits be kept on-site. In addition to the SWPPP, the development and implementation of a SPCC Plan (see Section 2, *Project Description (Phases 1 and 2),* Table 2-2) would address countermeasures to contain, cleanup, and remediate an accidental release of oil and oil-based products. PG&E would also require designated washing and fueling areas to be placed away from sensitive biological resource areas (AC BIO-4, *Site Maintenance and General Operations*). Several conditions to control fugitive dust and limit the areas of disturbance, where possible, would also be included as part of the Proposed Project (AC AQ-1, *Minimize Fugitive Dust*, and AC AQ-5, *SLOAPCD Fugitive Dust Mitigation Measures*). Additionally, PG&E would delineate work limits and staging areas, minimize disturbance, and conduct routine inspections of equipment for leaks (AC BIO-4, *Site Maintenance and General Operations*).

Indirect impacts would occur from the introduction of noxious and invasive weeds that degrades habitat or results in the displacement of special-status plants. The Proposed Project includes conditions, such as washing of all vehicles and equipment prior to entering work areas and utilizing materials that are certified weed-free to prevent the introduction and spread of noxious and invasive weeds (AC BIO-8, *Noxious Weed Prevention*). Indirect impacts could also occur if the upgraded or new septic system associated with the East Canyon Area were to fail resulting in leaching of materials, such as nitrogen and potassium, that provide nutrients and promote soil conditions conducive to the spread of invasive and noxious weeds. For example, weeds are

adapted to rapidly take up the nutrients that are released in organic matter and many germinate in response to the presence of nitrate which is used as a cue to indicate the absence of competition (Cornell University, 2018). However, because any upgrades would improve the existing system, which has been in use since circa 1968, the potential risk of failure would be substantially reduced relative to current conditions. Further, the installation of a new system would result in even a greater reduction of potential risks associated with failure of the system.

Due to the long-term nature of the Proposed Project, there is the potential that existing regulatory requirements associated with special-status plants may be modified or new designations may be assigned for species with the potential to occur at the DCPP site. For example, some common plants that are present at the DCPP site could receive new protections if they are designated as special-status species during the implementation of the Proposed Project. Similarly, plants that are currently considered special-status species at the DCPP site could be afforded additional protections under federal, State, and local laws and regulations. Indirect impacts could occur if plant species present at the DCPP site receive new or additional regulatory protections that are not currently covered within the context of this analysis.

Impacts to special-status plants would be significant without mitigation. The implementation of MM BIO-8 (*Conduct Preconstruction Surveys for Special-Status Plants and Implement Avoidance Measures*) would be required to reduce impacts to special-status plants. Additionally, MM AQ-1 (*Implement a Decommissioning Activity Management Plan [DAMP]*), MM BIO-1 (*Prepare and Implement a Worker Environmental Awareness Program [WEAP]*), MM BIO-2 (*Prepare and Implement a Habitat Restoration and Revegetation Plan*), MM BIO-3 (*Implement Oak and Native Mature Tree Protection Measures*), MM BIO-4 (*Prepare and Implement a Weed Management Plan*), MM BIO-5 (*Prepare and Implement a Biological Resources Adaptive Management Plan*), MM EM-2 (*Project Plan Updating, Tracking, and Reporting*, specifically for the DAMP required under MM AQ-1, Habitat Restoration and Revegetation Plan required under MM BIO-2, the Weed Management Plan required under MM BIO-4, and the Biological Resources Adaptive Management Plan required under MM BIO-5), and HWQ-1 (*Prepare and Implement Drainage Plans*) would be required to ensure that impacts are reduced to less than significant (Class II).

These mitigation measures would include preconstruction surveys for special-status plants, clearly delineating special-status plant locations for avoidance in the field, if feasible, mandatory setbacks from sensitive resource areas, a County-approved worker training program, habitat restoration, dust and weed controls, implementation of a Construction Drainage Plan, and plan tracking and enforcement, among other requirements.

Railyards

Pismo Beach Railyard. There were no federally- or State-listed plants detected at the PBR site during 2021 and 2022 botanical surveys and critical habitat for federally-listed species does not occur at the site. Based on current species ranges and the presence of marginal habitat, there is a low potential for listed plant species, including marsh sandwort (FE, SE, CRPR List 1B.1), La Graciosa thistle (FE, ST, CRPR List 1B.1), Pismo clarkia (FE, SR, CRPR List 1B.2), and Gambel's water cress (FE, ST, CRPR List 1B.1) to occur. One non-listed special-status plant, black-flowered figwort (CRPR List 1B.2), was observed in a depression adjacent to the PBR site during botanical

surveys. Several additional non-listed special-status plants have the potential to occur at the PBR site or in adjacent habitats (see Appendices E2 and E3).

The PBR site is primarily developed with patches of native coast live oak woodlands occurring along the western edge of the site. Additionally, small, isolated bulrush marshes are interspersed with ruderal habitat along the eastern edge of the site. The native vegetation communities at the site and in adjacent riparian habitat associated with Pismo Creek could support special-status plants; however, vegetation removal and grading would not be required at the PBR site. Although it is unlikely, direct impacts would occur if work activities were to result in the removal or destruction of special-status plants. The Proposed Project would include clearly defined work areas restricting access of vehicles and heavy equipment outside of those areas (AC BIO-4, *Site Maintenance and General Operations*).

Direct impacts would also occur if special-status plants are subject to increased exposure to hazardous materials and fugitive dust. Indirect impacts would include the introduction and spread of noxious and invasive weeds. However, since activities at the PBR site would be primarily conducted within developed areas, such impacts are not likely to occur.

However, impacts would be significant without mitigation. The implementation of mitigation measures BIO-1 (*Prepare and Implement a Worker Environmental Awareness Program [WEAP]*) and MM BIO-8 (*Conduct Preconstruction Surveys for Special-Status Plants and Implement Avoidance Measures*), would ensure that impacts are reduced to less than significant (Class II).

SMVR-SB. There were no special-status plants identified at the SMVR-SB site during 2021 and 2022 botanical surveys and critical habitat for federally-listed species does not occur at the SMVR-SB site. Although the site is primarily developed, there is a low potential for disturbance-tolerant special-status plant species, such as paniculate tarplant (*Deinandra paniculata*) (CRPR List 4.2), to occur. Several additional non-listed special-status plants have the potential to occur at the SMVR-SB site (see Appendices E2 and E3).

The SMVR-SB site is primarily developed or characterized by ruderal vegetation communities; however, some isolated patches of scrub habitat are present. As such, direct and indirect impacts would be similar in type and magnitude to those discussed for the PBR site.

Impacts would be significant without mitigation. Implementation of MM BIO-1 (*Prepare and Implement a Worker Environmental Awareness Program [WEAP]*) and MM BIO-8 (*Conduct Preconstruction Surveys for Special-Status Plants and Implement Avoidance Measures*) would ensure impacts are reduced to less than significant (Class II).

Phase 2

Direct impacts to special-status plants at the DCPP site would be similar in type as those described for Phase 1 (see Phase 1 discussion). However, impacts from the destruction or removal of individual plants and seed banks and the temporary loss of habitat would be substantially reduced in magnitude during Phase 2 since the majority of initial ground-disturbing activities would be completed. The process of removing the Discharge Structure and completing associated restoration would continue during Phase 2 (see Phase 1 discussion). If any clearing of previously undisturbed areas is required, topsoil would be removed and stockpiled. For Phase

2, PG&E would also prepare a Revegetation Plan as part of the Proposed Project (see Section 2.4.4, *Grading and Landscaping [Final Site Restoration]*) that would apply to all temporary disturbance areas and the demolition zone. Upon completion of grading to natural contours, areas would be revegetated to establish native vegetation that is consistent suitable habitat for special-status plants known to occur in the Project area.

Direct impacts from erosion and exposure to fugitive dust would be similar but likely increase in magnitude during Phase 2 activities as the majority of hardscape features at the DCPP site would be removed resulting in a greater level of exposed soils. If special-status plants are exposed to hazardous materials, direct impacts would be similar in type and magnitude to those discussed for the DCPP site during Phase 1 activities. PG&E would minimize erosion, fugitive dust, and release of hazardous materials, during Phase 2, as described in the Project Description (AC AQ-1, *Minimize Fugitive Dust*; AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*; and AC BIO-4, *Site Maintenance and General Operations*).

Ongoing grading activities would result in indirect impacts if the hydrology of the site is altered in such a way as to adversely affect special-status plants due to increased long-term erosion and sedimentation, altered on-site drainage patterns, or additional runoff that would exceed capacity of stormwater conveyance. As part of the Proposed Project's site restoration and pursuant to Section 23.05.042 (Drainage Plan Required) of the San Luis Obispo County Code, a SWMP would be prepared prior to the issuance of any grading or building permits (see Section 2.4.5, *Long-Term Stormwater Management*). The SWMP would require management of stormwater drainage from the site over the period of time for vegetation to establish and to minimize potential sediment impacts to adjacent habitat for special-status plants. Indirect impacts from the introduction and spread of noxious and invasive weeds would be similar to those discussed for the DCPP site under Phase 1 but would increase in magnitude due to the level of exposed soil on-site during Phase 2 activities. Indirect impacts associated with potential changes to existing regulatory requirements or new designations for special-status plants would be similar to those discussed for the DCPP site under Phase 1.

Impacts would be significant without mitigation. Therefore, the same mitigation measures listed for Phase 1 activities at the DCPP site would be implemented. Additionally, MM HWQ-1 (*Long-Term Erosion and Sediment Control Plan*), which requires the preparation and implementation of a Post-Decommissioning Drainage Plan prior to initiating Phase 2 activities and MM HWQ-2 (*Long-Term Erosion and Sediment Control Plan*), which would identify BMPs to control erosion and sedimentation from the site during grading and final site restoration activities would be required. The implementation of these mitigation measures would ensure that impacts are reduced to less than significant (Class II).

Post-Decommissioning Operations

New Facility Operations. Upon completion of Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. New facility operations would be performed within fully developed and fenced areas that do not support suitable habitat for special-status plants. Post-decommissioning activities would also include periodic tree trimming and brush removal to maintain defensible space around building and access roads in compliance

with CAL FIRE/County requirements. Although some of these activities may encroach on habitat suitable for special-status plants, they would be minimal and would only be performed to maintain compliance with CAL FIRE and County regulations. Therefore, impacts would be less than significant, and no mitigation is required (Class III).

Future Actions. Once permitted by a third-party, use of the Marina facilities would be limited to previously disturbed areas and would avoid activities within habitat that supports special-status plants. Although there would be no ground disturbance or tree trimming with continued operations, it is possible that special-status plants could be directly impacted if individual plants are trampled or destroyed as the public would be allowed to explore the Marina area and would have uncontrolled access to natural areas adjacent to Diablo Canyon Road upon removal of the Avila Gate Guard Facilities. Indirect impacts to special-status plants could occur as a result of the introduction of invasive and noxious weeds from offsite transport via vehicles and watercraft during post-decommissioning operations. Impacts to special-status plants would be significant without mitigation. Therefore, MM BIO-6 (*Install "No Entry" Signage at DCPP*), which includes restrictions for entering unauthorized areas during future actions, would ensure that impacts are reduced to less than significant (Class II).

Mitigation Measures for Impact BIO-5.

AQ-1 **Implement a Decommissioning Activity Management Plan (DAMP)** See Section 4.2.

BIO-1 **Prepare and Implement a Worker Environmental Awareness Program (WEAP)**

BIO-2 **Prepare and Implement a Habitat Restoration and Revegetation Plan**

BIO-3 **Implement Oak and Native Mature Tree Protection Measures**

BIO-4 **Prepare and Implement a Weed Management Plan**

BIO-5 **Prepare and Implement a Biological Resources Adaptive Management Plan**

BIO-6 **Install "No Entry" Signage at DCPP**

BIO-8 **Conduct Preconstruction Surveys for Special-Status Plants and Implement Avoidance Measures.** The Applicant or its designee shall implement the following tasks to mitigate any direct and indirect impacts to special-status plants.

Preconstruction Surveys. Prior to initial ground disturbance at the DCPP site and Phase 1 activities at the PBR site, a County-approved plant ecologist or botanist shall conduct surveys for special-status plants in all areas subject to ground-disturbing activities with a 100-foot buffer (for the DCPP site only) and Phase 1 activities (for PBR site only). The surveys shall be conducted during the appropriate blooming period(s) according to protocols established by CDFW and CNPS (CDFW, 2018, or more recent if available). Surveys shall be valid for a period of 3 years. If vegetation removal or initial site disturbance in a surveyed area does not occur within 3 years, surveys shall be repeated.

Any individuals and/or populations of special-status plants found during surveys shall be fully described, mapped and a CNPS Field Survey Form or written equivalent shall

be prepared. A report detailing the results of each survey shall be provided to the County of San Luis Obispo Planning and Building Department (County) no more than 30 days prior to initial ground disturbance at the DCPP site.

Avoidance. Prior to any ground-disturbing activities at the DCPP site or Phase 1 activities at the PBR site, the Applicant or its designee shall clearly delineate the limits of disturbance with staking, flagging, or other suitable markers. Any individuals and/or populations of special-status plants identified during the surveys shall be protected using staking, flagging, or fencing. The buffer for herbaceous and shrub species shall be, at a minimum, 50 feet from the perimeter of the individual plant or plant population. A smaller buffer may be established by the County-approved plant ecologist or botanist, provided there are adequate measures in place to avoid the impacts to the individual plant or plant population. If Project activities result in the loss of more than 10 percent of an onsite population of any CRPR List 1.B or CRPR List 2 species, mitigation shall be required as described below.

Salvage. If Project activities result in the loss of more than 10 percent of an onsite population of any CRPR List 1.B or CRPR List 2 species, the Applicant or its designee shall develop a Salvage and Relocation Plan based on the life history of the species affected. The plan shall include at a minimum: (a) collection/salvage measures for plants and seed banks, to retain intact soil conditions and maximize success likelihood; (b) details regarding storage of plants or seed banks; (c) location of the proposed recipient site, and detailed site preparation and plant introduction techniques; (d) time of year that the salvage and replanting or seeding will occur and the methodology of the replanting; (e) a description of the irrigation, if used; (f) success criteria; and (g) a detailed monitoring plan, commensurate with the plans' goals. The Salvage and Relocation Plan shall be submitted to the County for review and approval a minimum of 30 days prior to the start of salvage activities.

EM-2 **Project Plan Updating, Tracking, and Reporting** See Section 3.

HWQ-1 **Prepare and Implement Drainage Plans** See Section 4.11.

HWQ-2 **Long-Term Erosion and Sediment Control Plan** See Section 4.11.

Impact BIO-6: Result in the loss or disturbance to special-status terrestrial species, including invertebrates, fish, amphibians, reptiles, birds, and mammals or their critical habitat (Class II: Less than Significant with Mitigation).

The following discussion evaluates potential impacts to special-status wildlife species that are known to occur or could be present within the Project area. "Take" of any federal or State listed species, as defined by Section 3 of the ESA and Section 86 of the Fish and Game Code, would only be authorized through the context of the appropriate regulatory permits (i.e., Biological Opinion, Incidental Take Permit) from USFWS, NMFS, and/or CDFW. Pursuant to the California Fish and Game Code, fully-protected species may not be taken or possessed at any time and no permits may be issued for their take (with limited exceptions that do not pertain to the Proposed Project).

Phase 1

DCPP Project Site

Most of Phase 1 ground disturbance at the DCPP site would occur within ruderal vegetation communities and developed land cover types. Except for potential nesting sites for urban adapted birds and roosting sites for some special-status bat species, these areas do not typically support suitable habitat for special-status wildlife. Vegetation removal within riparian habitats associated with Diablo Creek would be avoided. Therefore, direct impacts from the removal of suitable stream habitat for steelhead and other aquatic special-status species would not occur.

Upland communities provide suitable refuge, foraging, breeding, and dispersal habitat for a variety of special-status animals. Although not documented at the DCPP site, Morro shoulder-band snail, if present, could utilize leaf litter or shrubby microhabitats within a variety of vegetation communities for foraging and refuge. Crotch's bumble bee often nest underground in abandoned holes made by a wide range of species, including insects, ground squirrels, mice, and rats. Like all bumble bees, Crotch's bumble bee colonies depend on floral resources for their nutritional needs and are generalist foragers, meaning they gather pollen and nectar from a wide variety of flowering plants. Suitable nesting and foraging habitat for Crotch's bumble bee occurs throughout native and non-native upland vegetation at and adjacent to the DCPP site. Special-status amphibians and reptiles, such as California red-legged frog, lesser salamander, or western pond turtle may utilize upland communities at the DCPP site during migration from breeding to non-breeding habitat and some may travel over a mile during these periods. Scrub communities at the DCPP site provide suitable foraging habitat for special-status birds, such as loggerhead shrike, while oak woodlands support potential nesting sites for white-tailed kite. Large tracts of native and nonnative grasslands within and immediately adjacent to the DCPP site provide habitat for documented overwintering burrowing owl. Small to mid-size mammals, such as San Diego desert woodrat, ringtail, and American badger are not expected to establish denning sites in developed areas of the DCPP site; however, native vegetation communities within and adjacent to the site provide suitable denning habitat for these species. Several woodrat middens were observed during surveys in native habitat throughout the site. Special-status bats could establish roosting sites in developed structures or dense woodlands at the DCPP site.

During Phase 1, approximately 0.45 acre and 17.85 acres of native and nonnative upland vegetation communities would be subject to direct impacts from permanent and temporary removal and grading activities, respectively (see Table 4.3-6). Permanent impacts would be associated with the expansion of the access road to the SE Borrow Site. This portion of Skyview Road/Ranch Road would be expanded from 12 feet to approximately 20 feet by adding graded aggregate base/crushed rock to each side. Expansion activities along this section of the road would result in the permanent removal of approximately 0.08 acre of California sagebrush scrub and 0.28 acre of wild oats and annual brome grassland. Approximately 0.09 acre of coast live oak woodland understory would also be removed; however, the road limits would be adjusted to avoid individual tree removal. Any permanent impacts would be offset through the revegetation and restoration of previously developed areas (see Figure 2-36). For example, the existing Firing

Range, which has an area of approximately 3.17 acres would be restored to correspond with adjacent communities of native and non-native vegetation.

Temporary impacts would occur from the excavation of the SE Borrow Site, removal of the Discharge Structure, demolition of the existing Firing Range, and trimming of oaks and other native mature trees (see Table 4.3-6). The removal of upland vegetation within the limits of disturbance at the DCPP site would be temporary and would represent only a small fraction of habitat available for special-status wildlife throughout the site and in the broader Irish Hills region. Smaller or less mobile special-status species, such as California red-legged frog, California legless lizard, or San Diego desert woodrat, would be more susceptible to the temporary loss of habitat. Species, such as American peregrine falcon, brown pelican, and mountain lion, that are much more mobile and typically exhibit broader ranges would likely avoid the area or move into adjacent habitat during decommissioning activities. As part of the Proposed Project, PG&E has developed a Discharge Structure Demolition and Restoration Plan (see Table 2-2) that would be implemented for the terrestrial area temporarily disturbed during the removal of the Discharge Structure. This plan includes requirements for topsoil salvage and replanting of the approximately 0.14 acre of coastal bluff scrub habitat (see Table 4.3-6) that comprises much of the terrestrial portion of the Discharge Structure restoration area.

Direct impacts to special-status wildlife would occur if individual animals are injured or killed from crushing, trampling, or entrapment or if eggs, nests, burrows, dens, or roosting sites are destroyed. Animals would be most susceptible to crushing by heavy equipment during vegetation removal and grading activities. Smaller, less mobile animals could also be trampled by foot traffic if present in work areas. Due to the cryptic nature of some species, such as Morro shoulderband snail or legless lizard, detection is often difficult, particularly during periods of inactivity. Similarly, Crotch's bumble bee overwintering sites, which may occur just a few centimeters below the surface of the ground, may be difficult to detect. California red-legged frogs can be found foraging in upland areas and could occur almost anywhere within the DCPP site. The potential to encounter California red-legged frogs and other special-status amphibians, if present, increases during rain events, at night, or in cool weather. It is during periods spent in upland habitats that these species would be most vulnerable to crushing or trampling. Larger and more mobile species, such as mountain lion, would be expected to disperse into adjacent habitat and impacts from crushing would be unlikely. Some animals may also be subject to injury or mortality from entrapment if open excavations or trenches are left exposed or uncovered.

Small to mid-sized burrows, used for refuge, cover, nesting, and rearing of young, are an essential habitat element for some special-status wildlife species, such as California red-legged frog, western pond turtle, burrowing owl, and American badger. Direct impacts would occur if burrows or dens used by these species are destroyed or removed, resulting in the mortality of individuals or destruction of eggs, if present. Direct impacts would also occur if the nests or eggs of special-status birds are damaged or destroyed during Phase 1 activities, such as tree trimming along the access road to the SE Borrow Site. Special-status bats could establish roosting sites in developed structures or dense woodlands at the DCPP site, which would result in direct impacts if subject to mortality or destruction of roosting sites during building demolition and road expansion activities.

To address potential injury and mortality to wildlife, and the destruction of nests, eggs, burrows, and dens, the Proposed Project includes limiting disturbance to the smallest possible area, restricting vehicles and heavy equipment to clearly defined work boundaries, maintaining speed limits on access roads, utilizing existing roads to the maximum extent feasible, and installing escape ramps in open excavations (AC BIO-4, *Site Maintenance and General Operations*, and AC BIO-5, *General Wildlife Protection*).

Vegetation clearing and grading in undeveloped work areas and demolition of existing facilities could result in the off-site transport of sediment and sediment-laden water into Diablo Creek or other aquatic features in or adjacent to the DCPP site. Similarly, removal of the above and below ground water conveyance system, culverts, and discharge points would disturb soils and increase the risk of erosion. The risk of erosion and transport of materials from the DCPP site would increase during rain events. Soil disturbance resulting in sedimentation has been directly implicated in lethal and sublethal effects on amphibians (Maxell and Hokit, 1999). Direct impacts would occur if special-status amphibians and other aquatic species, such as steelhead, western pond turtle, and two-striped garter snake are exposed to increased levels of sediment or if aquatic habitat is degraded from sediment-laden runoff from work areas. PG&E would be required to comply with the conditions of Section 23.07.174 (Streams and Riparian Vegetation) of the San Luis Obispo County Code throughout all Phase 1 activities. This would include implementing appropriate minimum setbacks along Diablo Creek and other riparian ESHAs and avoiding prohibited activities within these setbacks. There are facilities within the existing DCPP site that are currently located within defined setbacks along Diablo Creek and other upland areas. To address encroachments within these setbacks associated with decommissioning activities and new infrastructure (i.e., new GTCC Waste Storage Facility, indoor Firing Range, Security Building, and Storage Building), required training and monitoring measures discussed below would include conditions to establish and maintain appropriate setback buffers. PG&E has included several plans in the Project Description to limit erosion and control sources of contaminants. These plans include a construction-specific Stormwater Pollution Prevention Plan (SWPPP) (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*). The SWPPP would contain Best Management Practices (BMPs) designed to minimize erosion and control sediment during decommissioning activities. The Proposed Project also includes the implementation of a Preliminary Erosion and Sediment Control Plan that identifies BMPs, such as perimeter controls (e.g., silt fencing and fiber rolls) and hydroseeding, to control erosion and sedimentation from the DCPP site during grading and restoration activities (PG&E, 2020b).

Improperly stored or used hazardous materials, such as petroleum products and concrete waste would result in direct impacts to special-status wildlife if exposure results in injury or death, the degradation of aquatic habitat, or the abandonment of microsites, burrows, dens, or other habitat features. This would be particularly applicable to highly sensitive species, such as southwestern pond turtle since their broad diet and long-life span are conducive to accumulating large amounts of contaminants (Holland, 1991). Special-status mammals would be directly impacted if injured or killed from interactions with accidentally spilled or improperly contained hazardous materials, including lead ingestion at the existing Firing Range. Interaction could come from direct ingestion or contact or through secondary exposure from consuming contaminated forage or prey items.

The SWPPP (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*) would require site-specific BMPs to reduce or prevent the accidental release of hazardous materials and other pollutants. These would include designating areas for refueling or washing equipment, the use of secondary containment (i.e., drip pans), and requiring spill control kits be kept on-site. In addition to the SWPPP, the development and implementation of a SPCC Plan would be required by 40 CFR 112 (see Table 2-2). The SPCC Plan would address countermeasures to contain and cleanup an accidental release of oil and oil-based products. Additionally, as part of the Proposed Project work limits and staging areas would be delineated, designated washing and fueling areas away from sensitive biological resource areas identified, and routine inspections of equipment for leaks would be conducted (AC BIO-4, *Site Maintenance and General Operations*).

Direct impacts would occur if special-status animals are exposed to fugitive dust that results in adverse physiological effects or if excess levels of dust and construction noise lead to abandonment of nests, dens, roosts, or territories. PG&E would minimize fugitive dust and construction noise by watering active demolition and disturbed soil areas to suppress dust and utilizing equipment with low noise design (AC AQ-1, *Minimize Fugitive Dust,* and AC NOI-2, *Reduce Construction Noise*).

Some wildlife species are highly susceptible to interactions with humans due to transmissible diseases. For example, chytrid fungus is believed to be a leading cause in the decline of native amphibian populations worldwide and affects more than 700 species on all continents where amphibians occur (Lips, 2016). The fungus is transferred by direct contact between frogs and tadpoles or via zoospores in infected water. Humans can spread the disease through contaminated gear and equipment. Similarly, white-nose syndrome is a disease that affects hibernating bats and is caused by the fungus *Pseudogymnoascus destructans* (or *Pd*) according to the White-Nose Syndrome Response Team (WNSRT) (WNSRT, 2021). *Pd* grows in cold, dark places and attacks the bare skin of hibernating bats. As it grows, the fungus causes changes in bats that make them become active more than usual resulting in burning fat reserves needed to survive the winter. *Pd* spores can last a long time on surfaces including clothes, shoes, and outdoor gear. So, even though humans do not get white-nose syndrome, they can unknowingly transfer the fungus from one place to another. Although currently, white-nose syndrome appears to be limited in California to detections near the town of Chester in Plumas County (WNSRT, 2021). Direct impacts to special-status amphibians and bats could occur if transmissible fungal diseases are introduced into the Project area via contaminated gear and equipment.

The introduction and spread of invasive plants and wildlife would indirectly impact special-status wildlife by displacing native vegetation, degrading aquatic and upland habitat quality, altering soil characteristics, and modifying prey selection or reducing prey abundance. Such impacts could be associated with the transport of weed seeds or plant parts on vehicles and equipment from outside areas into the Project area. The Proposed Project includes washing all vehicles and equipment prior to entering work areas and utilizing materials that are certified weed-free, to address the potential the introduction and spread of transmissible fungal diseases or noxious and invasive species (AC BIO-8, *Noxious Weed Prevention*).

Indirect impacts could also occur if the upgraded or new septic system associated with the East Canyon Area were to fail resulting in leaching of materials, such as nitrogen and potassium, that

provide nutrients and promote soil conditions conducive to the spread of invasive and noxious weeds. For example, weeds are adapted to rapidly take up the nutrients that are released in organic matter and many germinate in response to the presence of nitrate which is used as a cue to indicate the absence of competition (Cornell University, 2018). However, because any upgrades would improve the existing system, which has been in use since circa 1968, the potential risk of failure would be substantially reduced relative to current conditions. Further, the installation of a new system would result in even a greater reduction of potential risks associated with failure of the system. Although the risks relative to current conditions would be reduced, indirect impacts as a result of failure of the septic system could also include degradation of water quality for California red-legged frog, western pond turtle, and other aquatic wildlife species. Generally, properly installed, sited, and maintained septic systems should not adversely affect water quality. If a failure of the system results in a discharge directly into surface waters, increased levels of nitrogen and phosphorus could cause algal blooms (USEPA, 2022). An overgrowth of algae can consume oxygen and block sunlight, resulting in mortality to aquatic organisms. Any upgrades to the existing septic system, or installation of a new system, would be implemented to ensure consistency with County ordinances related to sewage disposal systems and wastewater management (e.g., Titles 19 and 22), including setbacks from surface waters.

Ongoing grading activities would result in indirect impacts if the hydrology of the site is altered in such a way as to adversely affect special-status aquatic wildlife due to increased long-term erosion and sedimentation, altered on-site drainage patterns, or additional runoff that would exceed capacity of stormwater conveyance. As part of the Proposed Project's site restoration and pursuant to Section 23.05.042 (Drainage Plan Required) of the San Luis Obispo County Code, a SWMP would be prepared prior to the issuance of any grading or building permits (see Section 2.4.5, *Long-Term Stormwater Management*). The SWMP would require management of stormwater drainage from the site over the period of time for vegetation to establish and to minimize potential sediment impacts to adjacent habitat for special-status wildlife. Due to the long-term nature of the Proposed Project, there is the potential that existing regulatory requirements may be modified, or new designations may be assigned to wildlife species that are present or could potentially occur at the DCPP site. Indirect impacts could occur if these wildlife species receive new or additional protections that are not currently addressed within the context of this analysis.

Impacts to special-status wildlife would be significant without mitigation. The implementation of MM AQ-1 (*Implement a Decommissioning Activity Management Plan [DAMP]*), MM BIO-1 (*Prepare and Implement a Worker Environmental Awareness Program [WEAP]*), MM BIO-2 (*Prepare and Implement a Habitat Restoration and Revegetation Plan*), MM BIO-3 (*Implement Oak and Native Mature Tree Protection Measures*), MM BIO-4 (*Prepare and Implement a Weed Management Plan*), MM BIO-5 (*Prepare and Implement a Biological Resources Adaptive Management Plan*), MM EM-2 (Project *Plan Updating, Tracking, and Reporting,* specifically for the DAMP required under MM AQ-1, Habitat Restoration and Revegetation Plan required under MM BIO-2, Weed Management Plan required under MM BIO-4, Biological Resources Adaptive Management Plan required under MM BIO-5, Drainage Plans required under MM HWQ-1, Nesting Bird Management Plan required under MM BIO-7, and Long-Term Erosion and Sediment Control Plan required under MM HWQ-1), and MM HWQ-1 (*Prepare and Implement Drainage Plans*) would be required to reduce impacts. These measures include a County-approved worker

training program, habitat restoration and revegetation, oak and native tree protection, weed and dust control, the implementation of a Construction Drainage Plan, and tracking and enforcement of plans that are included as part of the Proposed Project. They would also account for the potential for new or modified regulations associated with special-status wildlife species throughout implementation of the Proposed Project.

The implementation of the following mitigation measures would also be required: MM BIO-7 (*Prepare and Implement a Nesting Bird Management Plan*), MM BIO-9 (*Conduct Biological Monitoring and Reporting*), MM BIO-10 (*Implement Wildlife Impact Avoidance and Minimization Measures*), MM BIO-11 (*Conduct Protocol-Level Surveys for Morro Shoulderband Snail and Implement Avoidance Measures*), MM BIO-12 (*Conduct Visual Presence/Absence Surveys for Crotch's Bumble Bee and Implement Avoidance Measures*), MM BIO-14 (*Conduct Preconstruction Surveys for Special-Status Herpetofauna and Implement Avoidance Measures*), MM BIO-15 (*Install and Maintain California Red-Legged Frog Exclusion Fencing*), MM BIO-16 (*Conduct Clearance Surveys and Monitoring for California Red-Legged Frog*), MM BIO-17 (*Conduct Preconstruction Surveys for Overwintering Burrowing Owl and Implement Avoidance Measures*), MM BIO-18 (*Conduct Preconstruction Surveys for San Diego Desert Woodrat Middens and Implement Avoidance Measures*), MM BIO-19 (*Conduct Preconstruction Surveys for American Badger and Ringtail Dens and Implement Avoidance Measures*), and MM BIO-20 (*Conduct Preconstruction Surveys for Roosting Bats and Implement Avoidance Measures*). These measures include specific preconstruction surveys for special-status nesting birds and herpetofauna, Morro shoulderband snail, Crotch's bumble bee, burrowing owl, San Diego desert woodrat middens, American badger and ringtail dens, and special-status bat roosting sites. They also include the establishment of avoidance buffers, biological monitoring, installation of exclusion fencing, and implementation of general wildlife protection measures, among other requirements. Implementation of the above measures would be required to ensure that impacts to special-status wildlife at the DCPP site are reduced to less than significant (Class II).

Railyards

Pismo Beach Railyard. Although primarily developed, the PBR site supports patches of native vegetation communities, including oak woodlands, scrub habitat, and wetland features that could provide potential habitat for special-status wildlife, such as monarch butterfly, California red-legged frog, and San Diego desert woodrat, among other (see Appendix E2, *Regional Special Status Species Tables*). Decommissioning activities at the PBR site would occur within developed areas and no vegetation removal activities or tree trimming would be required. Therefore, direct impacts from the temporary loss of habitat for special-status wildlife species would not occur.

Direct impacts to special-status wildlife would occur if individual animals are injured or killed from crushing, trampling, or entrapment or if eggs, nests, burrows, dens, or roosting sites are destroyed. Although the potential risk from crushing by heavy equipment during ground-disturbing activities would not apply at the PBR site, special-status animals could still be crushed or trampled if entering work areas during loading and unloading activities. Smaller, less mobile animals, such as California red-legged frog or coast horned lizard, would be the most vulnerable to injury or mortality from crushing while mobile species, including special-status birds and larger mammals would be expected to move away from work areas or avoid these areas during

operations. Because vegetation removal, tree trimming, grading, and building demolition activities would not be performed at the PBR site, the destruction of eggs, nests, burrows, dens, and roosting sites are unlikely to occur. However, the Proposed Project would include clearly defined work areas to restrict access of vehicles and heavy equipment outside of those areas (AC BIO-4, *Site Maintenance and General Operations*).

Direct impacts could occur if potential aquatic habitat for special-status species, including steelhead, California red-legged frog, and western pond turtle, along Pismo Creek is degraded from increased offsite transport of sediment and sediment-laden runoff. Increased levels of dust and noise from deliveries and railcar loading could result in direct impacts to special-status wildlife, such as monarch butterfly, burrowing owl, or special-status bats, if occupied burrows, dens, or roosting sites are abandoned during Phase 1 activities. The majority of the PBR site is covered by impervious surfaces and this would not change during decommissioning activities. Therefore, erosion, sedimentation, and dust control would continue to be managed as it is under existing conditions and impacts would not occur. Impacts from increased levels of noise generated during operations at the PBR site are not anticipated to substantially exceed current operations.

Activities at the PBR site would involve vehicles, loading equipment, and railcars that utilize hazardous materials (e.g., motor oil, diesel fuel, hydraulic fluid) that could directly impact special-status wildlife if individual animals are injured or killed from ingestion or contact with these materials. Further, the accidental release of these materials would result in direct impacts if they were to enter and degrade suitable aquatic habitat for special-status wildlife along the adjacent Pismo Creek riparian corridor. PG&E would limit vehicles and heavy equipment to defined work boundaries, utilize previously disturbed areas for equipment storage and staging, maintain speed limits on access roads, delineate sensitive resource areas and establish avoidance buffers, employ secondary containment, and conduct daily inspections of construction equipment for leaks (AC BIO-4, *Site Maintenance and General Operations,* and AC BIO-5, *General Wildlife Protection*).

The introduction and spread of invasive plants and wildlife would indirectly impact special-status wildlife by displacing native vegetation, degrading aquatic and upland habitat quality, altering soil characteristics, and modifying prey selection or reducing prey abundance. As part of the Proposed Project, PG&E would limit the introduction and spread of noxious weeds into the Project area by requiring cleaning of all vehicles and equipment (AC BIO-8, *Noxious Weed Prevention*).

Impacts at the PBR site would be significant without mitigation. The implementation of the following mitigation measures would be required: MM BIO-1 (*Prepare and Implement a Worker Environmental Awareness Program [WEAP]*), MM BIO-7 (*Prepare and Implement a Nesting Bird Management Plan*), MM BIO-9 (*Conduct Biological Monitoring and Reporting*), MM BIO-10 (*Implement Wildlife Impact Avoidance and Minimization Measures*), MM BIO-13 (*Conduct Roosting Site Surveys for Monarch Butterfly and Implement Avoidance Measures*), MM BIO-14 (*Conduct Preconstruction Surveys for Special-Status Herpetofauna and Implement Avoidance Measures*), MM BIO-15 (*Install and Maintain California Red-Legged Frog Exclusion Fencing*), MM BIO-16 (*Conduct Clearance Surveys and Monitoring for California Red-Legged Frog*), MM BIO-17 (*Conduct Preconstruction Surveys for Overwintering Burrowing Owl and Implement Avoidance*

Measures), MM BIO-18 (*Conduct Preconstruction Surveys for San Diego Desert Woodrat Middens and Implement Avoidance Measures*), and MM BIO-20 (*Conduct Surveys for Roosting Bats and Implement Avoidance Measures*). These mitigation measures include a County-approved worker training program, biological monitoring, installation of exclusion fencing, and implementation of general wildlife protection measures. They also include specific preconstruction survey requirements for special-status nesting birds and herpetofauna, burrowing owl, San Diego desert woodrat, and bat roosting sites. Implementation of the above measures would be required to ensure that impacts to special-status wildlife at the PBR site are reduced to less than significant (Class II).

SMVR-SB. Direct and indirect impacts to special-status wildlife at the SMVR-SB site would be the same as those discussed for the PBR site.

Impacts would be significant without mitigation. The implementation of the same mitigation measures discussed for the PBR site would be required to ensure that impacts are reduced to less than significant (Class II).

Phase 2

During Phase 2, grading/fill activities would primarily focus on backfilling voids created by the demolition of DCPP structures and restoring the DCPP site to a natural condition that promotes positive drainage. The process of removing the Discharge Structure and completing associated restoration would continue during Phase 2 (see Phase 1 discussion).

Direct impacts to special-status wildlife at the DCPP site would be similar in type to those described for Phase 1 (see Phase 1 discussion). However, impacts from the temporary loss of habitat would be substantially reduced during Phase 2 since the majority of ground-disturbance, tree trimming, and demolition work would be completed. If any clearing of previously undisturbed areas is required, topsoil would be removed and stockpiled. For Phase 2, PG&E would also prepare a Revegetation Plan as part of the Proposed Project (see Section 2.4.4, *Grading and Landscaping [Final Site Restoration]*) that would apply to all temporary disturbance areas and the demolition zone. Upon completion of grading to natural contours, areas would be revegetated to establish native vegetation that is consistent suitable habitat for special-status wildlife known to occur in the Project area. No activities would be conducted in Diablo Creek during Phase 2. Therefore, direct impacts from the loss of aquatic habitat for special-status aquatic species, such as steelhead, California red-legged frog, and western pond turtle, would not occur.

Direct impacts from injury or crushing of special-status animals due to mechanical crushing or trampling or the destruction of eggs, nests, burrows, dens, or roosting sites would be similar to those discussed for Phase 1 at the DCPP site but would be reduced in magnitude since the majority of ground-disturbance, tree trimming, and building demolition would have been completed.

The most likely risks to special-status wildlife during Phase 2 activities would be exposure to increased sediment and sediment-laden water should runoff from work areas enter Diablo Creek. Direct impacts from exposure to sediment for aquatic species, such as steelhead and California red-legged frog, would be increased in magnitude during Phase 2 activities as the

majority of hardscape features at the DCPP site would be removed resulting in a greater level of exposed soils. Due to a greater level of exposed soils, direct impacts from the exposure to fugitive dust that results in adverse physiological effects, or the abandonment of nests, dens, roosts, or other territories would also be increased in magnitude during Phase 2. The use of vehicles and equipment during Phase 2 would continue to result in the potential for the accidental release or improper containment of hazardous materials. Direct impacts to special-status wildlife from exposure to these materials during Phase 2 would be the same as those discussed for the DCPP site during Phase 1. PG&E would minimize erosion, fugitive dust, and release of hazardous materials, during Phase 2, as described in the Project Description (AC AQ-1, *Minimize Fugitive Dust*; AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*; and AC BIO-4, *Site Maintenance and General Operations*).

Indirect impacts associated with the introduction and spread of fungal diseases, such as chytrid or *Pd* would be similar in type and magnitude to those discussed under Phase 1. The level of exposed soils occurring at the DCPP site during Phase 2 would increase the potential for the introduction and spread of noxious and invasive weeds that could result in habitat degradation for special-status wildlife. Indirect impacts would occur if noxious and invasive species are introduced or spread into the DCPP site or adjacent habitat during Phase 2 activities. The Proposed Project includes washing all vehicles and equipment prior to entering work areas and utilizing materials that are certified weed-free, to address the potential the introduction and spread of transmissible fungal diseases or noxious and invasive species (AC BIO-8, *Noxious Weed Prevention*).

Indirect impacts during Phase 2 would also occur if ongoing grading activities result in increased long-term erosion and sedimentation or altered on-site drainage patterns that degrade water quality or habitat for special-status wildlife, particularly aquatic species utilizing Diablo Creek. As part of the Proposed Project's site restoration and pursuant to Section 23.05.042 (Drainage Plan Required) of the San Luis Obispo County Code, a SWMP would be prepared prior to the issuance of any grading or building permits (see Section 2.4.5, *Long-Term Stormwater Management*). The SWMP would require management of stormwater drainage from the site over the period of time for vegetation to establish and to minimize potential sediment impacts to adjacent habitat for special-status wildlife. Indirect impacts associated with potential changes to existing regulatory requirements or new designations for special-status plants would be similar to those discussed for the DCPP site under Phase 1.

Impacts would be significant without mitigation. Therefore, the same mitigation measures listed for Phase 1 activities at the DCPP site would be implemented. Additionally, MM HWQ-1 (*Prepare and Implement Drainage Plans*), which requires the preparation and implementation of a Post-Decommissioning Drainage Plan prior to initiating Phase 2 activities, and MM HWQ-2 (*Long-Term Erosion and Sediment Control Plan*), which would identify BMPs to control erosion and sedimentation from the site during grading and final site restoration activities, would be required. The implementation of these mitigation measures would ensure that impacts are reduced to less than significant (Class II).

Post-Decommissioning Operations

New Facility Operations. Upon completion of Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. These activities would be conducted in fully developed areas that typically do not support suitable habitat for special-status wildlife. Some special-status bat species may utilize new facilities for roosting sites and could be subject to periodic increased noise and human presence. However, the only staff needed on site for these activities would be those required to monitor and protect the ISFSI and GTCC Waste Storage Facility, which would be minimal (not disclosed due to security). Peak staff during ISFSI/GTCC quarterly, annual, and 5-year operations would be less than 50 and would not exceed current operations at the DCPP site. Post-decommissioning activities would also include periodic tree trimming and brush removal to maintain defensible space around building and access roads in compliance with CAL FIRE/County requirements. These activities would be minimal and would only be performed to maintain compliance with CAL FIRE and County regulations. Therefore, impacts would be less than significant, and no mitigation is required (Class III).

Future Actions. Once permitted by a third party, use of the Marina facilities would be limited to previously disturbed areas and would avoid activities within habitats that support special-status wildlife species. Although there would be no ground disturbance or tree trimming associated with future actions, members of the public would have uncontrolled access along the portion of Diablo Canyon Road between the Marina and the Avila Gate Guard House Facilities once the guard facilities are removed. It is possible that special-status wildlife could be directly impacted if individual animals are injured or killed from crushing by public vehicles using the Marina facilities or by trampling as the public would be allowed to explore the Marina area. Special-status wildlife could also be directly impacted if nests or eggs were to be destroyed or breeding behavior disrupted during public use. Indirect impacts could include the degradation of habitat for special-status as a result of the introduction of invasive and noxious weeds from offsite transport via vehicles and watercraft. Although the level of activity anticipated during third-party use of the Marina is not expected to exceed current operations at the DCPP, impacts to special-status wildlife would be significant without mitigation. Therefore, MM BIO-6 (*Install "No Entry" Signage at DCPP*), which includes restrictions for entering unauthorized areas during future actions, would ensure that impacts are reduced to less than significant (Class II).

Mitigation Measures for Impact BIO-6.

AQ-1 Implement a Decommissioning Activity Management Plan (DAMP) See Section 4.2.

BIO-1 Prepare and Implement a Worker Environmental Awareness Program (WEAP)

BIO-2 Prepare and Implement a Habitat Restoration and Revegetation Plan

BIO-3 Implement Oak and Native Mature Tree Protection Measures

BIO-4 Prepare and Implement a Weed Management Plan

BIO-5 Prepare and Implement a Biological Resources Adaptive Management Plan

BIO-6 Install "No Entry" Signage at DCPP

BIO-7 Prepare and Implement a Nesting Bird Management Plan

BIO-9 Conduct Biological Monitoring and Reporting. Prior to the submission of applications for any County Grading/Construction Permit, the following general biological monitoring requirements shall be implemented in addition to specific monitoring requirements identified under MM BIO-2, MM-BIO-7, and MM BIO-16. During Phase 1 and Phase 2, the Applicant or its designee shall employ a Biological Monitoring Team to oversee Project activities and to ensure compliance with mitigation measures, permit conditions, and plan requirements. General biological monitoring shall be conducted during all initial vegetation clearance, tree trimming, and grading activities at the DCPP site. Monitoring shall occur at least once weekly following completion of those activities throughout the duration of Phase 1 and Phase 2. General monitoring at the PBR and SMVR-SB sites shall occur at least once weekly throughout the duration of Phase 1 activities. General monitoring efforts shall be elevated from this schedule accordingly to cover any activity that may impact vegetation, wildlife, and sensitive biological resources.

The Biological Monitoring Team shall consist of:

Lead Biologist. No less than 60 days prior to the start of Phase 1 activities, the Applicant or its designee shall designate a Lead Biologist for the Project and submit their resume to the County of San Luis Obispo Planning and Building Department (County) for review and approval. The Lead Biologist shall, at a minimum, hold a bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field; have at least 3 years of experience in field biology or construction monitoring; show a demonstrable knowledge of the biological resources that are present or could be present in the Project area.

In general, the responsibilities of the Lead Biologist(s) shall include:

- Serving as the primary point for the County and regulatory agencies regarding biological resources mitigation and compliance.
- Preparing, conducting and/or overseeing Worker Environmental Awareness Program (WEAP) training (see MM BIO-1).
- Overseeing surveys for special-status species and ensuring that reporting requirements and timelines are met.
- Supervising Biological Monitors, including Restoration Monitors (see MM BIO-2), Avian Monitors (see MM BIO-7), and Red-Legged Frog Monitors (see MM BIO-16).
- Ensuring that proper biological monitoring coverage is maintained during all required Project activities.
- Immediately notifying the County in writing of dead or injured special-status species or any non-compliance with biological mitigation measures, permit conditions, or plan requirements.

- Conducting or overseeing bi-weekly site inspections during all Phase 1 and 2 activities at the DCPP site and communicating any remedial actions needed (i.e., trash, fencing repairs, weed maintenance, etc.) to maintain compliance with mitigation measures, permit conditions, and plan requirements.
- Providing written Weekly, Monthly, Quarterly, and Annual Biological Monitoring Reports to the County that shall, at a minimum, include a summary of Project activities at all Project sites, biological surveys and monitoring performed during the reporting period, special-status species observed, new active nest observations and active nest updates, any approved adjustments to nesting bird buffers, and non-compliance issues and remedial actions taken.

Biological Monitors. Prior to application for any County Grading/Construction/ Building Permits associated with any Phase 1 activities, County-approved Biological Monitor(s) shall be assigned by the Applicant or its designee to monitor Project activities. The Applicant or its designee shall provide the resumes of the proposed Biological Monitors to the County at least 30 days prior to the initiation of Phase 1 activities. Proposed Biological Monitors shall have a minimum of 2 years of experience in field biology or construction monitoring and demonstrated experience with the biological resources within the Project region.

The responsibilities of the Biological Monitors shall include:

- During monitoring duties, performing clearance surveys (sweeps) for sensitive biological resources that may be located within or adjacent to work areas prior to crews initiating work activities. If sensitive resources are observed, the Biological Monitor shall take appropriate actions as defined in the mitigation measures and permit conditions. Work activities shall not commence at any work area until the clearance survey has been completed and the Biological Monitor communicates to the contractor that work may begin.
- Conducting compliance monitoring during Project activities consistent with the timeline identified above.
- Ensuring that work activities are contained within approved disturbance area limits at all times, including setbacks defined under the County's Coastal Land Use Ordinance.
- Clearly delineating sensitive biological resources with staking, flagging, and signage, or other appropriate materials that are readily visible and durable. The Biological Monitors will inform work crews of these areas and the requirements for avoidance and will inspect these areas at appropriate intervals for compliance with mitigation measures and permit conditions.
- Routinely inspecting wildlife exclusionary fencing to ensure that it remains intact and functional. Any needs for fencing repairs shall be immediately communicated to the responsible party and repairs shall be completed in a timely manner, generally within 1 workday.

- Routinely inspecting work areas where animals may have become trapped or entangled, including equipment covered with bird deterrent netting (if any) and release any trapped or entangled animals. Inspections should also include high traffic areas, such as access roads and staging areas, to locate animals that are potentially in harm's way and relocate them, if necessary. Handling, relocation, release from entrapment, or other interactions with wildlife shall only be performed consistent with mitigation measure, permit conditions, and safety protocols unless otherwise authorized by CDFW and/or USFWS. Biological Monitors shall use handling measures that are safe, practicable, and consistent with mitigation measures and permit conditions to relocate (actively or passively) wildlife out of harm's way. If safety or other considerations prevent Biological Monitors from aiding trapped or entangled animals or animals in harm's way, the Lead Biologist shall be notified immediately. The Applicant or its designee, in coordination with the Lead Biologist, shall consult with CDFW and/or USFWS, a wildlife rehabilitator, or other appropriate party to obtain aid for the animal, consistent with applicable mitigation measures and permit conditions. If consultation with CDFW and/or USFWS is required, the County shall be notified within 1 day of the consultation.
- Maintaining the authority and responsibility to halt any Project activities that are not in compliance with applicable mitigation measures, permit conditions, or plan requirements or will have an unauthorized adverse effect on biological resources.
- At the end of each monitoring day, Biological Monitors shall verify that all excavations, open tanks, trenches, pits, or similar wildlife entrapment hazards have been adequately covered or have sufficient escape ramps installed to prevent wildlife entrapment and communicate with work crews to ensure covers or ramps are installed and functioning properly.
- Documenting monitoring activities on a daily basis, as performed to include location and description of activities monitored. The Biological Monitors shall prepare and submit all special-status species observations to the CNDDB within 30 days of the observation.

BIO-10 **Implement Wildlife Impact Avoidance and Minimization Measures.** Throughout all of Phase 1 and Phase 2 decommissioning activities at the DCPP, PBR, and SMVR-SB sites, the Applicant or its designee shall undertake the following measures to avoid or minimize impacts to wildlife resources:

- The Applicant or its designee will specify and enforce a maximum 15 mile per hour vehicle speed limit on any unpaved roads or work areas within the Project area. No Project-related pedestrian or vehicle traffic will be permitted outside of defined work area boundaries.
- Night lighting, when in use, shall be designed, installed, and maintained to prevent side casting of light towards surrounding wildlife habitat.
- Any soil bonding and weighting agents used for dust suppression on unpaved surfaces shall be non-toxic to plants and wildlife.

- To minimize disturbance to wildlife in surrounding habitat, unnecessary noise (e.g., loud radios, vehicle horns) shall be avoided.
- Potable and non-potable water sources, such as water buffalos and water truck tanks, shall be covered or otherwise secured to prevent animals (including birds) from entering. Water applied for dust abatement shall use the minimal amount needed to meet safety and air quality standards. Water sources (e.g., hydrants, J-stands) shall be checked periodically by biological monitors to ensure they are not creating open water sources due to leaking or consistently overfilling trucks.
- ***Trash.*** All trash, micro trash, and food-related waste shall be contained in vehicles or covered trash containers and removed from the site regularly.
- ***Worker guidelines.*** Workers shall not feed wildlife or bring pets to the Project area. Except for DCPP security and law enforcement personnel, no workers or visitors shall bring firearms or weapons into the Project area.
- ***Wildlife entrapment.*** Project-related excavations shall be secured to prevent wildlife entry and entrapment. Holes and trenches shall be backfilled, securely covered, or fenced. Excavations that cannot be fully secured shall incorporate appropriate wildlife exit ramp(s) at a slope of no more than a 3:1 ratio, or other means to allow trapped animals to escape. Biological monitors shall provide guidance to work crews to ensure that wildlife ramps or other means are sufficient to allow trapped animals to escape. A biological monitor shall inspect excavations for trapped wildlife routinely throughout the day and at the end of each workday.

  All pipes or other construction materials or supplies will be covered or capped in storage or laydown areas. No pipes or tubing will be left open either temporarily or permanently, except during use or installation. Any construction pipe, culvert, or other hollow materials will be inspected for wildlife before it is moved, buried, or capped.
- ***Dead wildlife.*** Dead animals of non-special-status species found within the Project area shall be reported to the appropriate local animal control agency within 24 hours. A biological monitor shall safely move the carcass out of the road or work areas as needed. Dead animals of special-status species found in the Project area shall be reported to CDFW, NMFS, and/or USFWS within one workday and the carcass handled as directed by the regulatory authority.
- ***Injured wildlife.*** PG&E shall create and implement guidelines for dealing with injured or entrapped wildlife found on or near the Project area. These guidelines shall be provided to all Project biological monitors. If an animal is entrapped or entangled, a qualified biological monitor shall free the animal if feasible, or work with decommissioning personnel to free the animal, in compliance with applicable safety regulations and Project requirements. If biological monitors cannot free the animal or the animal is too large or dangerous for monitors to handle, the Applicant or its designee shall contact and work with local animal control, CDFW, or other qualified parties to obtain assistance as soon as possible.

The Applicant or its designee shall ensure that one or more qualified biological monitors are properly trained (or receive training) in the safe and proper handling and transport of injured wildlife and are provided with the appropriate equipment. These trained and equipped monitors shall be available to capture and transport injured wildlife to a local wildlife rehabilitation center or veterinarian as needed. The Applicant shall bear the costs of any rehabilitation or veterinary treatment for any wildlife injured by Project-related activities. Any injured or entrapped special-status species found within or near the Project area shall be reported to the appropriate agencies within 1 workday.

BIO-11 **Conduct Protocol-Level Surveys for Morro Shoulderband Snail and Implement Avoidance Measures.** Prior to the submittal of applications for any County Construction or Grading permits related to any Phase 1 vegetation removal or grading activities in suitable habitat areas (e.g., microhabitat, sandy soil patches, material piles, leaf litter, etc.), the Applicant or its designee shall conduct protocol-level surveys for Morro shoulderband snail to determine presence or absence of the species at the DCPP site. Surveys shall be conducted by a qualified biologist approved by the County of San Luis Obispo Planning and Building Department (County) and shall be consistent with USFWS 2003 protocol survey guidelines for Morro shoulderband snail or the most recent guidelines (USFWS, 2003). The resume(s) of the proposed biologist(s) shall be submitted to the County for review and approval no more than 14 days prior to conducting surveys.

If the survey results are negative, no further action is required. If Morro shoulderband snails are discovered during surveys or during biological monitoring, a 50-foot avoidance buffer shall be established, and no activities shall be allowed. The Applicant or its designee shall notify the County in writing within 24 hours of any Morro shoulderband snail identified during surveys. The 50-foot buffer can be reduced depending on specific site conditions, location, and scheduled activities with the approval of the County in consultation with USFWS.

Within 14 days of completion of the surveys, the Applicant or its designee shall provide the County a report describing the findings, including the date, time, and duration of the survey; identity of the surveyor(s); a list of species observed; and electronic data identifying any snail observations and boundaries of established buffer zones.

BIO-12 **Conduct Visual Presence/Absence Surveys for Crotch's Bumble Bee and Implement Avoidance Measures.** Within 1 year prior to submittal of an application for a County Building permit related to any Phase 1 vegetation removal or grading activities within undeveloped portions of the DCPP site (i.e., areas outside the 142.86 acres with the "Developed" land cover type), the Applicant or its designee shall conduct visual surveys to determine the presence/absence of Crotch's bumble bee. The surveys shall be conducted by a County-approved qualified biologist(s) familiar with the species behavior and life history. The resume(s) of the proposed biologist(s) shall be submitted to the County of San Luis Obispo Planning and Building Department

(County) for review and approval no more than 14 days prior to conducting surveys. The following methodology shall apply unless CDFW releases specific survey protocols for the species. In this case, CDFW survey protocols shall be implemented. The surveys shall be conducted during the flying season (March 1 to September 1) when the species is most likely to be detected above ground and shall take place when temperatures are above 60°F, on sunny days with low wind speeds (e.g., less than 8 miles per hour) and at least 2 hours after sunrise and 3 hours before sunset. These methods may be varied in consultation with the County. Surveys shall focus on detection of foraging bumble bees and underground nests using visual aids such as butterfly binoculars.

Survey results, including negative findings, shall be submitted to the County prior to permit issuance for initiation of any Phase 1 vegetation removal or grading activities at the DCPP site. At a minimum, the survey results shall include the following:

- A description and map of the survey area, focusing on areas that could provide suitable habitat for Crotch's bumble bee.
- Field survey conditions that include name(s) of County-approved biologist(s); date and time of survey; survey duration; general weather conditions; survey goals; and species identified.
- A description of physical (e.g., soil, moisture, slope) and biological (e.g., plant composition) conditions where a nest/colony is found. A sufficient description of biological conditions, primarily impacted habitat, should include native plant composition (e.g., density, cover, and abundance) within impacted habitat (e.g., species list separated by vegetation class; density, cover, and abundance of species).

If survey results are negative, no further actions are required. If Crotch's bumble bee nests/colonies (or potential Crotch's bumble bee nests/colonies) are determined to be present during surveys, the Applicant or its designee shall develop a plan in consultation with the County and in coordination with CDFW to protect the nest/colony site(s). No ground-disturbing activities shall be conducted until the plan has been approved by the County. At a minimum, the plan will include the following:

- Specifications for ground-disturbing activities and sequencing requirements (e.g., avoidance of raking, mowing, grading until late March to protect overwintering queens).
- Subsequent surveys conducted within 30 days and consistent with any current available CDFW standards prior to the start of vegetation removal or grading activities to identify active nests.
- Establishment of appropriate avoidance buffers for nest sites and monitoring by a qualified biologist(s) to ensure compliance. The extent of avoidance buffers shall be determined by the qualified biologist(s) in consultation with the County.
- Restrictions associated with construction practices, equipment use, or materials that may harm nesting/colony sites.

- Provisions to avoid Crotch's bumble bee individuals or nesting/colony sites (or potential Crotch's bumble bee individuals or nesting/colony sites) during decommissioning activities (e.g., ceasing activities until the animal has left the work area on its own volition or the nesting/colony site has been abandoned).

Any "take" of Crotch's bumble bee individuals or nest/colony sites will only be authorized through the context of the appropriate permits issued by CDFW.

BIO-13 **Conduct Roosting Site Surveys for Monarch Butterfly and Implement Avoidance Measures.** Prior to the commencement of any ground disturbance or site mobilization activities, the Applicant or its designee shall retain a qualified biologist approved by the County of San Luis Obispo Planning and Building Department (County) with demonstrated experience in monarch butterfly ecology and habitat to conduct overwintering site surveys at the PBR and SMVR-SB sites prior to the initiation of Project activities if those activities are scheduled to occur during the wintering season (November 1 through the first week of March). The resume(s) of the proposed biologist(s) shall be submitted to the County for review and approval no more than 14 days prior to conducting surveys. Surveys shall be conducted at each of the sites including a 300-foot buffer and shall include a minimum of two surveys performed at least one month (30 days) apart within the wintering season. Surveys shall be consistent with methods specified by the Xerces Society for Invertebrate Conservation (Xerces, 2022). Surveys shall be conducted annually until Phase 1 activities are completed. Within 14 days of completion of the surveys, the Applicant or its designee shall provide the County a report describing the findings, including the date, time, and duration of the survey; identity of the surveyor(s); a list of species observed; and electronic data identifying any overwintering sites and boundaries of established buffer zones.

If survey results are negative, no further action is required. If an active overwintering site is identified during surveys, Project activities can continue if the qualified biologist determines that activities would not affect the overwintering site. If the qualified biologist determines that there is a potential for Project activities to affect an active overwintering site, an avoidance buffer shall be established around the site and no activities shall be allowed within the buffer zone. The extent of the buffer zone shall be determined by the qualified biologist in consultation with the County. The avoidance buffer shall be maintained until the qualified biologist determines that the overwintering site is no longer active.

Any "take" of monarch butterfly individuals or roosting sites will only be authorized through the context of the appropriate permits issued by USFWS.

BIO-14 **Conduct Preconstruction Surveys for Special-Status Herpetofauna and Implement Avoidance Measures.** Prior to submittal of applications for any County permits related to any Project activities at the DCPP, PBR, or SMVR-SB sites, the Applicant or its designee shall retain a Qualified Biologist(s) to conduct surveys for special-status herpetofauna. The resume(s) of the proposed biologist(s) shall be submitted to the County of San Luis Obispo Planning and Building Department (County) for review and

approval no more than 14 days prior to conducting surveys. Surveys shall include all areas of suitable habitat within the limits of disturbance at the DCPP, PBR, and SMVR-SB sites with a 100-foot buffer where legal access is available. Focused surveys shall consist of a minimum of 3 daytime surveys and 1 nighttime survey within 1 week of building demolition, vegetation clearing, grading, or tree trimming at the DCPP site and within 1 week of any Project activities at the PBR and SMVR-SB sites. The survey schedule may be adjusted in coordination with the County to account for existing weather conditions. Within 14 days of completion of the surveys, the Applicant or its designee shall provide the County with a report describing the findings, including the date, time, and duration of the survey; identity of the surveyor(s); a list of species observed; and electronic data identifying any special-status herpetofauna observations and relocation efforts.

The Qualified Biologist(s) shall perform daily clearance surveys prior to initiating work activities and be present during all vegetation removal and grading activities conducted at the DCPP site within or immediately adjacent to suitable habitat for special-status herpetofauna.

Any terrestrial herpetofauna found within an area of disturbance or potentially affected by Project activities during surveys or monitoring shall be allowed to leave the area on its own volition or relocated to the nearest suitable habitat that will not be affected by Project activities. If California red-legged frogs are observed during surveys and/or monitoring, individuals will only be handled under the context of the appropriate permits issued by USFWS and CDFW (see MM BIO-16).

BIO-15 **Install and Maintain California Red-Legged Frog Exclusion Fencing.** The Applicant or its designee shall develop a California Red-Legged Frog Exclusionary Fencing Plan prior to applying for a County Construction/Grading or Building permit related to any Project activities at the DCPP, PBR, or SMVR-SB sites. The plan must be submitted to the County of San Luis Obispo Planning and Building Department (County) for approval no less than 60 days prior to the initiation of any Project activities. The intent of the plan is to minimize the potential for California red-legged frogs to enter work areas. The plan shall include, at a minimum, areas identified for installation of fencing that most effectively exclude dispersing frogs and other special-status amphibians from work areas (including maps), a schedule for installation, the type of fence to be installed, installation methods, maintenance contingencies, and monitoring and inspection requirements.

At a minimum, areas that require fencing shall include all work area interfaces with Diablo Creek and Pismo Creek (including the north and east boundaries of the 500 kV switchyard and the northern boundary of the 230 kV switchyard) and the SE Borrow Site and associated access road.

Exclusion fencing shall consist of materials approved by the County in coordination with USFWS and CDFW. The fencing shall be buried along the bottom margin for 4 inches into the ground or shall be landscaped stapled with 7-inch staples every 3 inches along the bottom of the fence if soil conditions are not suitable to bury the

fencing. Alternatively, the fencing must be secured by other means to prevent animal passage through the fence and into work areas. The fencing will include passage or escape doors to allow any animals trapped within the fence line to escape. Any alternative methods for securing the fencing must be approved by the County prior to installation. The above-ground fencing shall be a minimum of 3 feet in height above the surface and anchored to non-corrosive metal T-posts that are installed a minimum of every 8 feet along the entire length of fencing. The top of the fencing shall be bent over in a semi-circle facing outwards to ensure that the fence cannot be climbed.

Exclusion fencing shall be routinely inspected by a County-approved Qualified Biologist and maintained throughout the duration of Phase 1 activities for the DCPP, PBR, and SMVR-SB sites, and throughout the duration of Phase 2 activities at the DCPP site.

BIO-16 **Conduct Clearance Surveys and Monitoring for California Red-Legged Frog.** At least 15 days prior to the onset of any Project activities or issuance/Notice to Proceed for any construction permits at the DCPP, PBR, and SMVR-SB sites, the Applicant or its designee shall submit the names and credentials of qualified biologist(s) who would conduct clearance surveys and monitoring conditions identified below to the County of San Luis Obispo Planning and Building Department (County) for review and approval.

Identify Reception Sites. Prior to the onset of any Project activities at the DCPP, PBR, and SMVR-SB sites, the County-approved biologist(s) must identify appropriate areas to receive red-legged frog adults and tadpoles relocated from Project sites. These areas must be in proximity to the capture site, contain suitable habitat, and not be affected by Project activities to the best of the County-approved biologist's knowledge. A map that identifies these areas shall be submitted to the County prior to any relocation efforts.

Clearance Surveys. Upon completion of exclusion fence installation required under MM BIO-16 and within 1 week of any Project activities at the DCPP, PBR, and SMVR-SB sites, a qualified biologist shall conduct clearance surveys for California red-legged frog. The surveys shall include 3 nighttime surveys with one of these surveys conducted within 24 hours of Project activities at each of the sites. The surveys shall be conducted by walking fence perimeters and meandering transects in suitable riparian and upland habitats within and immediately adjacent to the Project sites while using low-intensity flashlights to detect eye shine.

Within 14 days of completion of the final survey, the Applicant or its designee shall provide the County with a report describing the findings, including the dates, time and duration of the surveys; identity of the surveyor(s); weather conditions; electronic data identifying any red-legged frogs or other special-status herpetofauna observed and/or relocated; and a list of other species observed.

Monitoring. A County-approved biologist(s) shall be present during all Phase 1 and Phase 2 ground-disturbing activities at the DCPP site and shall perform weekly inspections of the PBR and SMVR-SB sites during Phase 1 activities and of the DCPP site upon completion of ground-disturbing activities. The County-approved biologist(s) shall have the authority to halt any action that might result in direct injury or mortality to individual frogs or tadpoles. If a work stoppage occurs, the County will be notified immediately by the County-approved biologist.

Handling and Relocation. If individual California red-legged frogs are identified during surveys and/or monitoring, they would only be handled through the context of the appropriate permits issued by USFWS and CDFW. Frogs found during surveys and/or monitoring shall be relocated by the County-approved biologist(s) to the predetermined reception site nearest the observation. If relocation is required during biological monitoring, the County-approved biologist(s) shall be allowed sufficient time to relocate frogs before Project activities are allowed to resume. The County-approved biologist(s) must maintain detailed records of any individuals that are relocated (e.g., size, coloration, any distinguishing features) with photographs and maps to assist in determining whether the relocated individuals are returning to the point of capture.

BIO-17 **Conduct Preconstruction Surveys for Overwintering Burrowing Owl and Implement Avoidance Measures.** The Applicant or its designee shall retain a qualified biologist with demonstrated experience in burrowing owl ecology to conduct pre-construction surveys for burrowing owl no more than 15 days prior to any construction permit Notice-to-Proceed or initiation of any Project activities at the DCPP, PBR, and SMVR-SB sites. Surveys shall conform to protocols established in the CDFW 2012 Staff Report on Burrowing Owl Mitigation (CDFW, 2012). Within 14 days of completion of the final (4 of 4) survey, the Applicant or its designee shall provide the County of San Luis Obispo Planning and Building Department (County) a report describing the findings. The report shall follow the guidelines provided in Appendix D of the CDFW 2012 Staff Report.

The Applicant or its designee shall take measures to avoid impacts to any active burrowing owl burrow within or adjacent to a work area by implementing buffer areas around the burrow where no construction activities will take place. The size of the buffer will be adequate to avoid impacts to the burrow and the occupying burrowing owl(s), eggs, and chicks, as determined by a qualified biologist. Buffers shall be 160 feet during the non-breeding season and 250 feet during the breeding season. The buffer will be staked and flagged. The prescribed buffers may be adjusted by the qualified avian biologist in coordination with the USFWS and/or CDFW based on existing conditions around the burrow, planned construction activities, tolerance of the species at a given location, and other pertinent factors.

Burrows that are verified as unoccupied by the Biologist may be made inaccessible to owls (e.g., by collapsing, covering, or other appropriate means). If active burrowing owl burrows are located within Project work areas, the Applicant or its

designee may passively relocate the owls, outside the nesting season only, by preparing and implementing a Burrowing Owl Passive Relocation Plan, as described below. In coordination with County and in consultation with CDFW and USFWS, the Applicant or its designee shall prepare a Burrowing Owl Passive Relocation Plan prior to the start of any ground-disturbing activities. No active relocation shall be permitted. No passive relocation of burrowing owls shall be permitted during the breeding season, unless a qualified biologist determines that an occupied burrow is not occupied by a mated pair, and only upon coordination with the CDFW and USFWS. The Plan shall include, but not be limited to, the following elements:

Assessment of Suitable Burrow Availability. The Plan shall include an inventory of existing, suitable, and unoccupied burrow sites within 500 feet of the affected Project work site. Suitable burrows will include ground squirrel or other burrows, cavities, pipes, or culverts that are deep enough to provide suitable burrowing owl nesting sites, as determined by the Biologist. If two or more suitable and unoccupied burrows are present in the area for each burrowing owl that will be passively relocated, then no replacement burrows will need to be built.

Replacement Burrows. For each burrowing owl that needs to be passively relocated, if fewer than two suitable unoccupied burrows are available within 300 feet of the affected Project work site, then the Applicant or its designee shall construct at least two replacement burrows within 300 feet of the affected Project work site. Burrow replacement sites shall be in areas of suitable habitat for burrowing owl nesting, and subject to minimal human disturbance and access. The Plan shall describe measures to ensure that burrow installation or improvements would not affect sensitive species habitat or any burrowing owls already present in the relocation area. The Plan shall provide guidelines for creation or enhancement of at least two natural or artificial burrows for each active burrow within the Project disturbance area, including a discussion of timing of burrow improvements, specific location of burrow installation, and burrow design. Design of the artificial burrows shall be consistent with CDFW guidelines (CDFG, 2012; or more current guidance as it becomes available) and shall be approved by the CDFW and USFWS.

Methods. Provide detailed methods and guidance for passive relocation of burrowing owls, outside the breeding season. An occupied burrow may not be disturbed during the nesting season (generally, but not limited to, February 1 to August 31), unless a qualified biologist determines, by non-invasive methods, that it is not occupied by a mated pair. Passive relocation would include installation of one-way doors on burrow entrances that would let owls out of the burrow but would not let them back in. Once owls have been passively relocated, burrows will be carefully excavated by hand and collapsed by, or under the direct supervision, of a qualified biologist.

Monitoring and Reporting. Describe monitoring and management of the replacement burrow site(s) and provide a reporting plan to document compliance. The objective shall be to manage the relocation area for the benefit of burrowing owls,

with the specific goal of maintaining the functionality of the burrows for a minimum of 2 years.

BIO-18 **Conduct Preconstruction Surveys for San Diego Desert Woodrat Middens and Implement Avoidance Measures.** No more than 3 days prior to County Notice-to-Proceed with initial ground-disturbing activities at the DCPP site, a qualified biologist shall conduct a survey to identify and flag woodrat middens. The survey area shall include all suitable habitat within the limits of disturbance plus a 25-foot buffer. If Project activities stop for one month or greater within an area that supports suitable habitat for San Diego desert woodrats, surveys shall be refreshed prior to work resuming in that area. Within 14 days of completion of survey, the Applicant or its designee shall provide the County of San Luis Obispo Planning and Building Department with a report describing the findings, including the date of the survey; identity of the surveyor(s); weather conditions; electronic data identifying any middens identified and relocation areas selected; methods for midden dismantlement and relocation; and a list of other species observed.

A 10-foot avoidance buffer shall be clearly delineated around any middens identified during the survey. Any middens that are determined to be unavoidable shall be mechanically dismantled (e.g., using an excavator with a thumb) slowly working from the top down under the supervision of the qualified biologist. The intent is to allow any woodrats to escape unharmed. Due to human health concerns associated with inhalation of dust and particles, no personnel shall assist in physically dismantling the midden (i.e., dismantling by hand will not be permitted) and supervision will be conducted upwind of dismantlement activities. If possible, materials that are dismantled will be mechanically relocated to suitable habitat outside of the immediate disturbance area to an area that will not be affected by Project activities.

Any remaining middens identified during surveys shall be monitored throughout all vegetation clearing and grading activities that occur within 25 feet. If woodrats are observed fleeing the midden, the qualified biologist(s) shall temporarily halt work until the animal has safely left the area of impact and/or are relocated to nearby suitable habitat by the qualified biologist. Any stoppage of work or relocation of woodrat individuals will be documented in daily monitoring reports.

BIO-19 **Conduct Preconstruction Surveys for American Badger and Ringtail Dens and Implement Avoidance Measures.** Prior to initiating any vegetation clearing or grading activities at the DCPP site, a County-approved biologist(s) shall conduct surveys for American badger and ringtail dens within 250 feet of limits of disturbance. The resume of the qualified biologist will be submitted to the County of San Luis Obispo Planning and Building Department (County) for approval prior to permit Notice-to-Proceed or initiating surveys. Surveys shall be conducted no more than 15 days prior to the initiation any vegetation removal or grading activities at the DCPP site. If present, occupied American badger and ringtail dens shall be flagged and vegetation removal or grading activities avoided within 100 feet of the occupied den. Natal dens shall be avoided during the whelping/pup rearing season for American

badger (February 15 through July 1) and ringtail (March 1 through June 30) and a minimum 250-foot buffer established. All occupied dens shall be flagged for avoidance, identified on construction maps, and a County-approved biological monitor shall be present during all Project activities.

Inactive Dens. Inactive dens that would be directly impacted during vegetation removal or grading activities at the DCPP site shall be excavated by hand or mechanized equipment under the direct supervision of a County-approved biologist(s) and backfilled to prevent reuse by badgers or ringtails. Potentially and known active dens shall not be disturbed during the whelping/pupping seasons identified above. A den may be declared "inactive" after 3 days of monitoring via camera(s) or a tracking medium have shown no American badger or ringtail activity.

Passive Relocation. If avoidance of a non-natal den is not feasible, badgers shall be passively relocated by slowly excavating the burrow (by hand or mechanized equipment under the direct supervision of the County-approved biologist), removing no more than 4 inches at a time. Passive relocation of badgers shall only occur before or after the whelping/pupping seasons identified above and only after notification and consultation with the County and CDFW. As a State fully protected species or ringtails cannot be passively relocated and must be allowed to leave the area on their own. Once the den is deemed empty, the cavity or burrow may be closed. A written report documenting any passive relocation events shall be provided to the County within 30 days of the event.

BIO-20 **Conduct Preconstruction Surveys for Roosting Bats and Implement Avoidance Measures.** Prior to Notice-to-Proceed or initiating any Project activities at the DCPP, PBR, or SMVR-SB sites, the Applicant or its designee shall retain a Qualified Biologist(s) to conduct surveys for roosting bats. The resume of the proposed biologist(s) shall be submitted to the County of San Luis Obispo Planning and Building Department (County) no more than 14 days prior to conducting surveys. Surveys shall be conducted no more than 14 days prior to building demolition, vegetation clearing, grading, or tree trimming at the DCPP site. Surveys at the PBR and SMVR-SB sites shall be conducted within 14 days of any Project activities. Additional surveys shall be conducted during the maternity season (1 March to 31 July) within 300 feet of Project activities. The County and CDFW shall be notified of any hibernacula or active roosting sites identified during surveys. If active maternity roosts or hibernacula are identified, the structure, tree, or other roosting medium shall be avoided (i.e., not removed), if feasible. If avoidance of the roosting site is not feasible, the Qualified Biologist will implement the following actions:

Maternity Roosts – If a maternity roost will be impacted by the Project, and no alternative maternity roosts are in use near the site, substitute roosting habitat for the maternity colony shall be provided on, or in proximity to, the Project site no less than three months prior to the eviction of the colony. Alternative roost sites shall be constructed in accordance with the specific bat species requirements in coordination

with the County and CDFW. Alternative roost sites must be of comparable size and proximal in location to the impacted colony.

Exclusion of Bats Prior to Eviction. If non-breeding bat hibernacula will be impacted by the Project, the individuals shall be safely evicted, under the direction of the Qualified Biologist, by opening the roosting area to allow airflow through the cavity or other means (e.g., one-way doors) determined by the Qualified Biologist. Any roost eviction that is required will be conducted in coordination with the County and CDFW. If one-way doors are utilized, a minimum of 1 week shall pass after doors are installed and temperatures shall be sufficiently warm for bats to exit the roost since bats do not typically leave their roost daily during winter months in coastal southern California. This action should allow all bats to leave during the course of 1 week. Roosts that need to be removed in situations where the use of one-way doors is not necessary or feasible in the judgement of the Qualified Biologist shall first be disturbed by various means under the direction of the Qualified Biologist at dusk to allow the bats to escape during the darker hours, and the roost shall be removed or Project activities in the area shall occur the following day (i.e., there shall be no less or more than 1 night between initial disturbance and Project activities). A written report documenting any relocation events shall be provided to the County within 30 days of the event.

EM-2 **Project Plan Updating, Tracking, and Reporting** See Section 3.

HWQ-1 **Prepare and Implement Drainage Plans** See Section 4.11.

HWQ-2 **Long-Term Erosion and Sediment Control Plan** See Section 4.11.

Impact BIO-7: Result in the permanent or temporary loss or disturbance to habitats identified as, or that may qualify as, an Environmentally Sensitive Habitat Area (ESHA) under Section 30000 et. seq. of the California Coastal Act of 1976 (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

The majority of the DCPP site is located within the Coastal Zone and habitats that meet the definition of ESHA under Section 30107.5 of the CCA and Title 23 of the County of San Luis Obispo's Coastal Zone Land Use Ordinance were documented. These include Mapped ESHAs and Unmapped ESHAs that have been categorized into Coastal Wetlands and Streams and Special-Status Plant Habitat (see Table 4.3-3 and Figure 4.3-4).

Phase 1 ground-disturbing activities would result in direct impacts from the temporary removal of approximately 0.06 acre of habitat within Coastal Stream and Wetland Unmapped ESHAs (see Table 4.3-3 and Figure 4.3-4). Within the limits of disturbance for the Proposed Project, these ESHAs are limited to ephemeral swales, erosional rills, and small drainages that do not support riparian habitat. Additionally, approximately 0.14 acre of vegetation within areas defined as Special-Status Plant Habitat ESHAs would occur during Phase 1 activities (see Table 4.3-3 and

Figure 4.3-4). These areas are associated with coastal bluff scrub habitat adjacent to the Discharge Structure and would be subject to direct impacts during the removal of the structure. As part of the Proposed Project, PG&E has developed a Discharge Structure Demolition and Restoration Plan that would be implemented during revegetation and restoration of the terrestrial area associated with the removal of the Discharge Structure during Phase 1 (see Table 2-2). This plan includes requirements for topsoil salvage and replanting for the terrestrial portion of the Discharge Structure restoration area which is primarily characterized as an ESHA.

The remaining direct and indirect impacts to ESHAs would be the same as those discussed for native vegetation under Impact BIO-1. These would include increased erosion and sedimentation, exposure to hazardous materials and fugitive dust, and degradation of habitat quality from the introduction of noxious and invasive species. As part of the Proposed Project, PG&E would be required to comply with provisions of the County's Coastal Zone Land Use Ordinance which include minimizing disturbance limits and implementing setbacks for development proposed within or adjacent to (within 100 feet of the boundary) an ESHA.

Impacts would be significant without mitigation. Therefore, the same mitigation measures listed for Phase 1 under Impact BIO-1, which include a County-approved worker training program, habitat restoration, and dust and weed control, and implementation of a Construction Drainage Plan, among other requirements, would be required. Implementation of these mitigation measures would ensure that impacts to ESHAs are reduced to less than significant (Class II).

Railyards

All railyard limits are outside of the Coastal Zone boundary with the exception of a small portion in the southwest corner of the PBR site. There were no ESHAs identified within this portion of the PBR site. Therefore, there would be no impacts to ESHAs at either of the railyard sites.

Phase 2

Direct and indirect impacts to ESHAs during Phase 2 would be similar to those discussed for Phase 1. However, direct impacts associated with the removal of vegetation would be substantially reduced in magnitude since the majority of vegetation removal and grading activities would occur during Phase 1. The process of removing the Discharge Structure and completing associated restoration would continue in Phase 2 (see Phase 1 discussion). If any clearing of previously undisturbed areas is required, topsoil would be removed and stockpiled. During Phase 2, PG&E would also prepare a Revegetation Plan as part of the Proposed Project (see Section 2.4.4, *Grading and Landscaping [Final Site Restoration]*) that would apply to all temporary disturbance areas and the demolition zone. Upon completion of grading to natural contours, areas would be revegetated to establish native vegetation that is consistent with adjacent plant communities and wildlife habitat.

The remaining direct and indirect impacts would be the same as those discussed for Phase 1. However, the potential for erosion and fugitive dust would likely increase during Phase 2 as the majority of hardscape features at the DCPP site would be removed resulting in a greater level of exposed soils. The greater level of exposed soils occurring at the DCPP site during Phase 2 would also increase the potential for indirect impacts from the introduction and spread of noxious and invasive weeds. PG&E would be required to continue implementing the conditions of the

County's Coastal Zone Land Use Ordinance for development proposed within or adjacent to an ESHA during Phase 2.

Impacts would be significant without mitigation. Therefore, the same mitigation measures discussed under Phase 1 would be required during Phase 2. Additionally, MM HWQ-1 (*Prepare and Implement Drainage Plans*), which requires the preparation and implementation of a Post-Decommissioning Drainage Plan prior to initiating Phase 2 activities, and MM HWQ-2 (*Long-Term Erosion and Sediment Control Plan*), which would identify BMPs to control erosion and sedimentation from the site during grading and final site restoration activities, would be required. EM-2 *(Project Plan Updating, Tracking, and Reporting,* specifically for Drainage Plans required under MM HWQ-1, the Long-Term Erosion and Sediment Control Plan required under MM HWQ-2, the Habitat Restoration and Revegetation Plan required under MM BIO-2, the Weed Management Plan required under MM BIO-4, the Biological Resources Adaptive Management Plan required under MM BIO-5, and the DAMP required under MM AQ-1) The implementation of these mitigation measures would ensure that impacts are reduced to less than significant (Class II).

Post-Decommissioning Operations

New Facility Operations. Upon completion of Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Post-decommissioning activities would also include periodic tree trimming and brush removal to maintain defensible space around building and access roads in compliance with CAL FIRE/County requirements. These activities would be minimal and would only be performed to maintain compliance with CAL FIRE and County regulations. Further, there were no ESHAs identified immediately adjacent to the revised Owner-Controlled Area where fire prevention maintenance activities would primarily occur. Therefore, there would be no impacts, and no mitigation is required.

Future Actions. Upon the NRC's release of the Part 50 license, the Marina would be made available to a third-party for permitting and reuse for recreational, education, or commercial purposes and controlled access from the Avila Gate Guard House Facilities would no longer be implemented. Operations could include boating activities and use of the ancillary structures, parking lots, and public restroom facility. For analysis purposes, it is assumed that up to 200 persons could visit the Marina per day. Any third-party use of the Marina would be restricted to developed facilities within the Marina. However, since access to the facilities would be uncontrolled, direct impacts could occur if habitats supporting ESHAs are damaged or loss as a result of public use outside of the developed areas. Impacts to ESHAs would be significant without mitigation. Therefore, MM BIO-6 (*Install "No Entry" Signage at DCPP*), which includes restrictions for entering unauthorized areas during future actions, would ensure that impacts are reduced to less than significant (Class II).

Mitigation Measures for Impact BIO-7.

AQ-1 Implement a Decommissioning Activity Management Plan (DAMP) (see Section 4.2)

BIO-1 Prepare and Implement a Worker Environmental Awareness Program (WEAP)

BIO-2 Prepare and Implement a Habitat Restoration and Revegetation Plan

BIO-3 Implement Oak and Native Mature Tree Protection Measures

BIO-4 Prepare and Implement a Weed Management Plan

BIO-5 Prepare and Implement a Biological Resources Adaptive Management Plan

BIO-6 Install "No Entry" Signage at DCPP

EM-2 Project Plan Updating, Tracking, and Reporting See Section 3.

HWQ-1 Prepare and Implement Drainage Plans See Section 4.11.

HWQ-2 Long-Term Erosion and Sediment Control Plan See Section 4.11.

Impact BIO-8: Interfere with established wildlife migratory corridors or terrestrial wildlife nursery sites (Class III: Less than Significant).

Phase 1

DCPP Project Site

There are no known established wildlife migratory corridors or nursery sites that would be directly impacted by Phase 1 activities at the DCPP site. The DCPP site is located within a large Natural Landscape Block that extends from the Santa Ynez Mountains northward to Morro Bay (Spencer et al., 2010). The site is largely developed, fenced, and is currently non-contiguous with the large blocks of surrounding open terrestrial space that could support wildlife movement across the broader region. On a smaller scale, Diablo Creek provides a local movement corridor for wildlife movement between the Irish Hills and coastal habitats downstream. However, existing passage barriers, such as the Diablo Canyon Road crossing located within the DCPP site, limit movement for migratory fish, and likely some other small aquatic animals.

Direct impacts would occur during Phase 1 activities from the removal of native vegetation associated with the excavation of the SE Borrow Site and removal of the Discharge Structure. During Project activities, these work sites would likely be avoided by wildlife moving through the general area. However, ground-disturbance would be temporary and limited to discreet work sites. These activities would not create substantial barriers to general wildlife movement. It is likely that larger and more mobile species would use adjacent habitats to continue to move through the area. Phase 1 activities would not be performed within Diablo Creek so that area would remain available for wildlife moving between upland and coastal habitats in the area. Direct impacts would also occur if increased levels of noise, human presence, and fugitive dust result in disruption to natural wildlife movement patterns at and adjacent to the DCPP site. Indirect impacts would include the degradation of habitat from the introduction and spread of noxious and invasive weeds.

Phase 1 activities may temporarily limit terrestrial wildlife movement in the immediate area; however, existing barriers, including fencing and roads, currently limit movement in the area and the broader geographic range and habitat that occurs in the region would remain available to wildlife. Further, Diablo Creek would continue to provide a vital corridor for local wildlife movement. Therefore, the Project would not substantially interfere with the movement of any native resident or migratory fish, reptile, or amphibian species.

Impacts would be considered less than significant, and no mitigation is required (Class III).

Although no mitigation is required, the implementation of MMs BIO-1 through BIO-20 would further reduce impacts through habitat restoration, exclusion fencing, weed control, and avoidance measures, among other requirements.

Railyards

The PBR and SMVR-SB sites are primarily developed and are not contiguous with large blocks of open space. Roads, structures, agricultural fields, and other developed features currently limit use as a wildlife movement corridor in these areas. None of the railyard facilities occur within known established wildlife migratory corridors or nursery sites. Therefore, there would be no impact.

Phase 2

Impacts during Phase 2 would be similar to those discussed for Phase 1 (see Phase 1 discussion) but would be substantially reduced since the majority of vegetation removal and grading activities would have already been completed. Further, Phase 2 activities would include final site restoration and revegetation which would result in the establishment of additional native habitat that could be used by wildlife for movement in the area.

Impacts would be considered less than significant, and no mitigation is required (Class III).

The implementation of MMs BIO-1 through BIO-20 would further reduce impacts through habitat restoration, exclusion fencing, weed and dust control, and avoidance measures, among other requirements.

Post-Decommissioning Operations

New Facility Operations. Upon completion of Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. These activities would be conducted in fully developed areas that typically do not support adequate wildlife corridors or nursery sites for wildlife. Some bat species may utilize new facilities for roosting sites and could be subject to periodic increased noise and human presence. However, the only staff needed on site for these activities would be those required to monitor and protect the ISFSI and GTCC Waste Storage Facility, which would be minimal (not disclosed due to security). Peak staff during ISFSI/GTCC quarterly, annual, and 5-year operations would be less than 50 and would not exceed current operations at the DCPP site. Post-decommissioning activities would also include periodic tree trimming and brush removal to maintain defensible space around building and access roads in compliance with CAL FIRE/County requirements. These activities would be minimal and would

only be performed to maintain compliance with CAL FIRE and County regulations. Elevated levels of noise and human presence may result in some wildlife avoiding movement within and through the immediate area during fire maintenance activities. Since these activities would be periodic and temporary, it is likely that animals would return upon completion of any required tree trimming or brush removal. Therefore, impacts would be less than significant, and no mitigation is required (Class III).

Future Actions. Upon release of the Part 50 license, PG&E could lease and sublet (or other arrangement) the Marina to a third-party for recreational, educational, or commercial purposes. It is estimated that up to 200 persons could visit the Marina per day. From a terrestrial biological resources' perspective, any third-party use of the Marina would occur in previously developed areas and the level of activity would not exceed current operations at the DCPP site. As such, no impacts would occur, and no mitigation is required.

Mitigation Measures for Impact BIO-8. No mitigation is required.

Impact BIO-9: Result in the loss or disturbance to federal and State protected wetlands defined under Sections 401 and 404 of the Clean Water Act, the Porter-Cologne Water Quality Control Act, Section 30233 of the Coastal Act, Section 1600 et. Seq. of the California Fish and Game Code, or other jurisdictional habitats (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

The preliminary aquatics assessment identified a total of approximately 2.8 acres of non-wetland waters of the U.S. and 3.4 acres of non-wetland waters of the state in the DCPP survey area (see Table 4.3-4 and Figure 4.3-8. Additionally, approximately 5.69 acres of CDFW streambeds and 0.01 acre of CCC wetlands were identified (see Table 4.3-4 and Figure 4.3-8). These jurisdictional features include a portion of Diablo Creek and various ephemeral drainages, seeps, springs, and basins. As required by law, PG&E would comply with the regulations regarding conducting activities in water bodies under the jurisdiction of the relevant State and federal agencies. Therefore, PG&E would obtain permits pursuant to Section 401 and 404 of the CWA and the State Porter-Cologne Act and CDFG Code 1602-1605, as applicable.

Phase 1 decommissioning activities would result in approximately 0.8 acre, 1.1 acres, and 1.2 acres of temporary direct impacts to non-wetland waters of the U.S., non-wetland waters of the state, and CDFW streambeds respectively (see Table 4.3-4). These are comprised of features that occur within the limits of disturbance and would be subject to vegetation removal, grading, and demolition activities during Phase 1. Although meeting the requirements of the applicable jurisdictions, none of the features that would be directly impacted support riparian vegetation. The majority of direct impacts to jurisdictional features would be associated with the removal of the Discharge Structure (see Figure 4.3-8). As part of the Proposed Project, PG&E has developed a Discharge Structure Demolition and Restoration Plan that would be implemented during revegetation and restoration of the terrestrial area associated with the removal of the Discharge Structure during Phase 1 (see Table 2-2). This plan includes requirements for topsoil salvage and replanting for the terrestrial portion of the Discharge Structure restoration area.

Existing above and below ground stormwater conveyance structures would also be subject to direct impacts during demolition and grading activities. Disruption of the existing stormwater conveyance system could result in direct impacts if contributing to the degradation of water quality on the site. Small, earthen roadside ditches and ephemeral crossings would also be subject to temporary direct impacts during expansion of the access road to the SE Borrow Site and use of other Proposed Project access roads.

Phase 1 activities would also result in indirect impacts to approximately 2 acres of non-wetland waters of the U.S., 2.3 acres of non-wetland waters of the state, 0.01 acre of CCC wetlands, and 4.5 acres of CDFW streambeds (see Table 4.3-4). These include features that are located outside of the disturbance limits but within the 100-foot setback (survey buffer) surrounding the disturbance limits (see Figure 4.3-8. Indirect impacts would occur if sediment and sediment-laden waters or hazardous materials, such as petroleum products or concrete waste, are transported offsite and into Diablo Creek and other jurisdictional features. As part of the Proposed Project, PG&E would implement several plans (see Table 2-2) during Phase 1 activities to limit erosion and control sources of contaminants. These would include a construction-specific SWPPP (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*). The SWPPP would contain BMPs designed to minimize erosion and control offsite sediment transport during decommissioning activities. PG&E has also developed a Preliminary Erosion and Sediment Control Plan (PG&E, 2020b) that identified BMPs, such as perimeter controls (e.g., silt fencing and fiber rolls) and hydroseeding, to control erosion and sedimentation from the DCPP site during grading and restoration activities. The SWPPP would also require site-specific BMPs to reduce or prevent the accidental release of hazardous materials and other pollutants. These would include designating areas for refueling or washing equipment, the use of secondary containment (i.e., drip pans), and requiring spill control kits be kept on-site. In addition to the SWPPP, the development and implementation of the SPCC Plan would address countermeasures to contain, cleanup, and mitigate the effects of an accidental release of oil and oil-based products. As part of the Proposed Project, PG&E would also delineate work limits and staging areas, minimize disturbance, and conduct routine inspections of equipment for leaks (AC BIO-4, *Site Maintenance and General Operations*).

Indirect impacts to jurisdictional waters during Phase 1 activities would also occur if habitat is degraded due to the introduction and spread of nonnative invasive plant or wildlife species. The introduction and spread of invasive or noxious weeds can result in widespread and long-term indirect impacts by outcompeting and displacing native vegetation, particularly to fragile riparian communities. Weed infestations can also result in modifications to hydrological conditions and soil chemistry. The Proposed Project includes washing of all vehicles and equipment prior to entering work areas and utilizing materials that are certified weed-free, to reduce the introduction and spread of noxious and invasive weeds (AC BIO-8, *Noxious Weed Prevention*). Indirect impacts could also occur if the upgraded or new septic system associated with the East Canyon Area were to fail resulting in leaching of materials, such as nitrogen and potassium, that provide nutrients and promote soil conditions conducive to the spread of invasive and noxious weeds. For example, weeds are adapted to rapidly take up the nutrients that are released in organic matter and many germinate in response to the presence of nitrate which is used as a cue to indicate the absence of competition (Cornell University, 2018). However, because any upgrades would improve the existing system, which has been in use since

circa 1968, the potential risk of failure would be substantially reduced relative to current conditions. Further, the installation of a new system would result in even a greater reduction of potential risks associated with failure of the system. Although the risks relative to current conditions would be reduced, indirect impacts as a result of failure of the septic system could also include degradation of water quality. Generally, properly installed, sited, and maintained septic systems should not adversely affect water quality. If a failure of the system results in a discharge directly into surface waters, increased levels of nitrogen and phosphorus could cause algal blooms (USEPA, 2022). An overgrowth of algae can consume oxygen and block sunlight, resulting in mortality to fish and other aquatic organisms. Any upgrades to the existing septic system, or installation of a new system, would be implemented to ensure consistency with County ordinances related to sewage disposal systems and wastewater management (e.g., Titles 19 and 22), including setbacks from surface waters.

Impacts to Diablo Creek and other jurisdictional features would be considered significant without mitigation. The following mitigation measures are required to ensure that impacts are reduced to the extent feasible: MM BIO-1 (*Prepare and Implement a Worker Environmental Awareness Program [WEAP]*), MM BIO-2 (*Prepare and Implement a Habitat Restoration and Revegetation Plan*), MM BIO-4 (*Prepare and Implement a Weed Management Plan*), MM BIO-9 (*Conduct Biological Monitoring and Reporting*), MM EM-2 (*Project Plan Updating, Tracking, and Reporting,* specifically for Drainage Plans required under MM HWQ-1, the Long-Term Erosion and Sediment Control Plan required under MM HWQ-2, and the Habitat Restoration and Revegetation Plan required under MM BIO-2), and MM HWQ-1 (*Prepare and Implement Drainage Plans*) . With the implementation of these measures, impacts would be reduced to less than significant (Class II).

These mitigation measures include the implementation of a a County-approved worker training program, site stabilization, weed control, biological monitoring, the implementation of a Construction Drainage Plan, and plan tracking and enforcement during Phase 1 activities at the DCPP site.

Railyards

One drainage feature and 5 wetland features were identified within the PBR site during a preliminary assessment conducted by PG&E (PG&E, 2020a). Each of these features were determined to meet the requirements of federal or state jurisdiction. There were no features identified within the SMVR-SB site that would meet these requirements. Although not within the PBR site, Pismo Creek, a perennial blue line drainage is located immediately south of the site. Additionally, Guadalupe Lake is located approximately 350 feet south of the SMVR-SB site and a retention basin and other stormwater basins occur immediately adjacent to the site. These features have not been formally delineated and could meet federal and state jurisdiction.

Vegetation removal and grading activities would not be required as part of modifications at the PBR or SMVR-SB sites. The majority of each of these sites is covered by impervious surfaces and this would not change during decommissioning activities. Therefore, erosion and sedimentation would continue to be managed as it is under existing conditions and impacts would not occur. Loading and unloading activities would involve vehicles and equipment that utilize hazardous materials (e.g., motor oil, diesel fuel, hydraulic fluid). Direct impacts would occur if such

materials are accidentally released or improperly contained and enter jurisdictional features or potentially jurisdictional features within or immediately adjacent to the PBR or SMVR-SB sites. Indirect impacts could occur if noxious and invasive species if the introduction and establishment of noxious species results in the degradation of riparian habitat associated with jurisdictional features or potentially jurisdictional features, particularly along Pismo Creek.

As part of the Proposed Project, PG&E would delineate work limits, prohibit staging of equipment within 100 feet of aquatic resources, require the use of secondary containment (e.g., drip pans), vehicle and equipment inspections for leaks, and weed control to reduce the potential introduction and spread of noxious and invasive species (AC BIO-4, *Site Maintenance and General Operations*, and AC BIO-8, *Noxious Weed Prevention*). Impacts to federal and state waters and wetlands at the PBR and SMVR-SB sites would be less than significant, and no additional mitigation is required (Class III).

Phase 2

During Phase 2, grading/fill activities would primarily focus on backfilling voids created by the demolition of DCPP structures and restoring the DCPP site to a natural condition that promotes positive drainage. The process of removing the Discharge Structure and completing associated restoration would continue in Phase 2 (see Phase 1 discussion). In addition, a new blufftop road segment would be constructed to connect Shore Cliff Road with the North Ranch Road (Pecho Valley Road).

Direct impacts to federal and state waters and wetlands would be similar in type to those described for Phase 1 (see Phase 1 discussion). Direct impacts to jurisdictional features resulting from vegetation and grading activities would be reduced in magnitude since the majority of these activities would be completed in Phase 1 (see Phase 1 discussion). During Phase 2, PG&E would prepare a Revegetation Plan as part of the Proposed Project (see Section 2.4.4, *Grading and Landscaping [Final Site Restoration]*) that would apply to all temporary disturbance areas and the demolition zone. As part of final site restoration, grading would be conducted to reestablish natural contours and impacted areas would be revegetated to establish native vegetation that is consistent with adjacent plant communities.

Direct impacts from increased erosion and sedimentation would be increased in magnitude during Phase 2 since the majority of hardscape features at the DCPP site would be removed resulting in greater levels of exposed soils. The use of vehicles and equipment during Phase 2 would result in the potential for the accidental release or improper containment of hazardous materials which could directly impact federal and state waters and wetlands if these materials are transported offsite and into jurisdictional features, particularly during rain events.

The level of exposed soils occurring at the DCPP site during Phase 2 would increase the potential for the introduction and spread of noxious and invasive weeds. Indirect impacts would occur if noxious and invasive species are introduced or spread into the DCPP site or adjacent habitat during Phase 2 activities.

Indirect impacts during Phase 2 would also occur if ongoing grading activities result in increased long-term erosion and sedimentation or altered on-site drainage patterns that degrade riparian habitat and water quality. As part of the overall site restoration design and pursuant to Section

23.05.042 (Drainage Plan Required) of the San Luis Obispo County Code, a SWMP would be prepared (see Section 2.4.5, *Long-Term Stormwater Management*). The SWMP would implement long-term management of stormwater drainage from the site over the period of time required for revegetation to establish and to minimize potential sediment impacts from the site to Diablo Creek and other jurisdictional features.

Impacts would be significant without mitigation. Therefore, the same mitigation measures listed for Phase 1 activities at the DCPP site would be implemented during Phase 2. Additionally, MM HWQ-1 (*Prepare and Implement Drainage Plans*), which requires the preparation and implementation of a Post-Decommissioning Drainage Plan prior to initiating Phase 2 activities, and MM HWQ-2 (*Long-Term Erosion and Sediment Control Plan*), which would identify BMPs to control erosion and sedimentation from the site during grading and final site restoration activities, would be required. The implementation of these mitigation measures would ensure that impacts are reduced to less than significant (Class II).

Post-Decommissioning Operations

New Facility Operations. Upon completion of Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. These activities would be conducted in fully developed areas that are isolated from jurisdictional features identified at the DCPP site. Post-decommissioning activities would also include periodic tree trimming and brush removal to maintain defensible space around building and access roads in compliance with CAL FIRE/County requirements. These activities would be minimal and would only be performed to maintain compliance with CAL FIRE and County regulations. Therefore, there would be no impacts, and no mitigation is required.

Future Actions. Upon the NRC's release of the Part 50 license, the Marina would be made available to a third-party for permitting and reuse for recreational, education, or commercial purposes and controlled access from the Avila Gate Guard House Facilities would no longer be implemented. Operations could include boating activities and use of the ancillary structures, parking lots, and public restroom facility. For analysis purposes, it is assumed that up to 200 persons could visit the Marina per day. Any third-party use of the Marina would be restricted to developed facilities within the Marina. However, since access to the facilities would be uncontrolled, direct impacts could occur if jurisdictional features are damaged or loss as a result of public use outside of the developed areas. Impacts to jurisdictional features would be significant without mitigation. Therefore, MM BIO-6 (*Install "No Entry" Signage at DCPP*), which includes restrictions for entering unauthorized areas during future actions, would ensure that impacts are reduced to less than significant (Class II).

Mitigation Measures for Impact BIO-9.

BIO-1 Prepare and Implement a Worker Environmental Awareness Program (WEAP)

BIO-2 Prepare and Implement a Habitat Restoration and Revegetation Plan

BIO-3 Implement Oak and Native Mature Tree Protection Measures

BIO-6 Install "No Entry" Signage at DCPP

BIO-9 Conduct Biological Monitoring and Reporting

EM-2 Project Plan Updating, Tracking, and Reporting See Section 3.2.

HWQ-1 Prepare and Implement Drainage Plans See Section 4.11.

HWQ-2 Long-Term Erosion and Sediment Control Plan See Section 4.11.

Impact BIO-10: Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (No Impact).

Phase 1

DCPP Project Site

The County of San Luis Obispo uses a combination of the General Plan, Land Use Ordinances, and CEQA Guidelines, where applicable, to avoid or minimize impacts of development and urbanization to sensitive biological resources.

As discussed in Section 4.3.2 (*Regulatory Setting*), several Land Use Ordinances are applicable to the Proposed Project. These ordinances provide specific protections for biological resources, including native mature trees, wetlands, streams and riparian vegetation, terrestrial habitats, and ESHAs. PG&E would be required to comply with the conditions of these regulations prior to the issuance of land use and construction permits and throughout the duration of Proposed Project activities. This would include submittal of the appropriate planning documents, obtainment of pertinent County permits, and the implementation of standards identified in the ordinances, such as tree removal criteria and required setbacks from wetlands, riparian habitats, and ESHAs.

As described in Impacts BIO-1 through BIO-9, the Proposed Project would be consistent with local and regional policies and ordinances protecting biological resources, including the Land Use and Coastal Land Use Ordinances of the San Luis Obispo County Code. Therefore, no impact would occur.

Railyards

Pismo Beach Railyard. PG&E would be required to comply with the same regulations discussed for the DCPP site under Phase 1 prior to the issuance of land use and construction permits and throughout the duration of Proposed Project activities. This would include submittal of the appropriate planning documents, obtainment of pertinent County permits, and the implementation of standards identified in the ordinances, such as tree removal criteria and required setbacks from wetlands, riparian habitats, and ESHAs.

As described in Impacts BIO-1 through BIO-9, the Proposed Project is consistent with local and regional policies and ordinances protecting biological resources, including the Land Use and Coastal Land Use Ordinances of the San Luis Obispo County Code. Therefore, no impact would occur.

SMVR-SB. Proposed Project activities at the SMVR-SB site would be consistent with existing operations at the facility and would not include any vegetation or tree removal or grading activities at the site. Therefore, there would be no conflicts with local policies or ordinances protecting biological resources and no impact would occur, and no mitigation is required.

Phase 2

PG&E would continue to comply with the same regulations discussed for the DCPP site under Phase 1 throughout the duration of Phase 2 activities. This would include submittal of the appropriate planning documents, obtainment of pertinent County permits, and the implementation of standards identified in the ordinances, such as tree removal criteria and required setbacks from wetlands, riparian habitats, and ESHAs.

As described in Impacts BIO-1 through BIO-9, the Proposed Project would maintain consistency with local and regional policies and ordinances protecting biological resources, including Title 22 Oak Woodland Ordinance (Section 22.58) of the San Luis Obispo County Code. Therefore, no impacts would occur, and no mitigation is required.

Post-Decommissioning Operations

New Facility Operations. Upon completion of Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. These activities would be conducted within fully developed areas. In compliance with CAL FIRE's defensible space requirements, post-decommissioning activities would also include periodic removal of brush and dead/dying trees. These activities would be minimal and would only be performed to maintain compliance with CAL FIRE and County regulations. Further, only dead/dying oaks and other mature trees would be trimmed or removed which would not conflict with any County Land Use Ordinances for protected trees (see Section 4.3.2). Therefore, impacts would be less than significant, and no mitigation is required.

Future Actions. Upon release of the Part 50 license, PG&E could lease and sublet (or other arrangement) the Marina to a third-party for recreational, educational, or commercial purposes. It is estimated that up to 200 persons could visit the Marina per day. From a terrestrial biological resources' perspective, any third-party use of the Marina would occur in previously developed areas and the level of activity would not exceed current operations at the DCPP site. As such, there would be no conflicts with local policies or ordinances. Therefore, there would be no impacts and no mitigation measures are required.

Mitigation Measures for Impact BIO-10. No mitigation is required.

Impact BIO-11: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan (No Impact).

Phase 1

DCPP Project Site

The DCPP site is not within an area designated by an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved Habitat Conservation Plan. Therefore, implementation of Phase 1 activities at the DCPP site would not conflict with any such plan. As such, there would be no impact, and no mitigation is required.

Railyards

Neither of the railyard facilities are within an area designated by an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved Habitat Conservation Plan. Therefore, implementation of Phase 1 activities would not conflict with any such plan. As such, there would be no impact, and no mitigation is required.

Phase 2

The DCPP site is not within an area designated by an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved Habitat Conservation Plan. Therefore, implementation of Phase 1 activities at the DCPP site would not conflict with any such plan. As such, there would be no impact, and no mitigation is required.

Post-Decommissioning Operations

New Facility Operations. The DCPP site is not located within an area designated by an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved Habitat Conservation Plan. Therefore, new facility operations would not conflict with any habitat conservation plans. As such, there would be no impacts, and no mitigation is required.

Future Actions. The DCPP site is not within an area designated by an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved Habitat Conservation Plan. Therefore, Marina improvements would not conflict with any habitat conservation plans. As such, there would be no impacts and no mitigation is required.

Mitigation Measures for Impact BIO-11. No mitigation is required.

4.3.5 Cumulative Impact Analysis

Geographic Extent Context

For the purposes of this cumulative impacts analysis, there are four projects within the County of San Luis Obispo that are located within an approximately 5-mile radius closest to the DCPP site where there is the potential for impacts related to terrestrial biological resources to

combine with the Proposed Project (see Table 3-1, *Cumulative Projects Located Near the DCPP Decommissioning Project*, and Figure 3.1-1):

- Orano System ISFSI Modifications (#1)
- Communications Facility (#2)
- Flying Flags Campground (#4)
- Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6)

The geographic extent of this analysis is appropriate because the terrestrial biological resources within this area are expected to be similar to those that occur in and around the Project area. Cumulative impacts could occur if other projects, in conjunction with the Proposed Project, would have impacts on terrestrial biological resources that, when considered together, would be significant.

Cumulative Impact Analysis

Phase 1 and Phase 2

Several of the projects listed in Table 3-1, particularly the projects identified within the geographical extent for this analysis, are permanent development projects that could result in adverse impacts to terrestrial biological resources, including native vegetation communities, nesting birds and raptors, special-status species, and waters and wetlands of the US and state. Impacts resulting from the implementation of the Proposed Project would be temporary and would be reduced through the identified mitigation measures. Further, due to the restorative nature of the Proposed Project at the DCPP site, long-term impacts to terrestrial biological resources would be ultimately beneficial. Therefore, the Proposed Project's potential contribution to impacts on terrestrial biological resources would not be cumulatively considerable.

Post-Decommissioning Operations

Post-decommissioning activities at the DCPP site would include new facility operations and future actions related to third party use of the Marina. Neither of these components would require any new permanent development. Any activities during post-decommissioning would be conducted within existing facilities. Therefore, the Proposed Project's post-decommissioning activities would not represent a considerable contribution to cumulative impacts on terrestrial biological resources.

4.3.6 Summary of Significance Findings

Table 4.3-7 presents a summary of the impacts to terrestrial biological resources, significance determinations, and mitigation measures for the Proposed Project.

Table 4.3-7. Summary of Impacts and Mitigation Measures – Biological Resources - Terrestrial

	Impact Significance Class				
	Phase 1		Phase 2 Post-Decom		
Impact Statement	***DCPP***	***PBR/SB***	***DCPP***	***Ops/Marina***	**Mitigation Measures**
BIO-1: Result in permanent and temporary loss of native vegetation communities.	II	III/III	II	NI/II	**AQ-1:** Implement a Decommissioning Activity Management Plan (DAMP) **BIO-1:** Prepare and Implement a Worker Environmental Awareness Program (WEAP) **BIO-2:** Prepare and Implement a Habitat Restoration and Revegetation Plan **BIO-3:** Implement Oak and Native Mature Tree Protection Measures **BIO-4:** Prepare and Implement a Weed Management Plan **BIO-5:** Prepare and Implement a Biological Resources Adaptive Management Plan **BIO-6:** Install "No Entry" Signage at DCPP **EM-2:** Project Plan Updating, Tracking, and Reporting **HWQ-1:** Prepare and Implement Drainage Plans **HWQ-2:** Long-Term Erosion and Sediment Control Plan
BIO-2: Establish and/or spread of noxious and invasive weeds or invasive wildlife species.	II	III/III	II	III/III	**BIO-1** and **BIO-4** (see above)
BIO-3: Result in the loss, harm, injury, harassment, or potential mortality of common terrestrial wildlife.	III	III/III	III	NI/NI	None required
BIO-4: Result in loss or disturbance to nesting or breeding birds or raptors.	II	II/II	II	III/II	**AES-1:** SMVR Lighting Guidelines **AQ-1** and **EM-2** (see above)**BIO-1** through **BIO-4**, **BIO-6** (see above) **BIO-7:** Prepare and Implement a Nesting Bird Management Plan
BIO-5: Result in the loss or disturbance to any special-status plant species or their critical habitat.	II	II/II	II	III/II	**BIO-1** through **BIO-6** (see above) **BIO-8:** Conduct Preconstruction Surveys for Special-Status Plants and Implement Avoidance Measures **AQ-1, EM-2, HWQ-1,** and **HWQ-2** (see above)

Table 4.3-7. Summary of Impacts and Mitigation Measures – Biological Resources - Terrestrial

	Impact Significance Class				
	Phase 1		Phase 2 Post-Decom		
Impact Statement	***DCPP***	***PBR/SB***	***DCPP***	***Ops/Marina***	**Mitigation Measures**
BIO-6: Result in the loss or disturbance to special-status terrestrial species, including invertebrates, fish, amphibians, reptiles, birds, and mammals or their critical habitat.	II	II/II	II	III/II	**BIO-1** through **BIO-7** (see above) **BIO-9:** Conduct Biological Monitoring and Reporting **BIO-10:** Implement Wildlife Impact Avoidance and Minimization Measures **BIO-11:** Conduct Protocol-Level Surveys for Morro Shoulder-band Snail and Implement Avoidance Measures **BIO-12:** Conduct Visual Presence/ Absence Surveys for Crotch's Bumble Bee and Implement Avoidance Measures **BIO-13:** Conduct Roosting Site Surveys for Monarch Butterfly and Implement Avoidance Measures **BIO-14:** Conduct Preconstruction Surveys for Special-Status Herpetofauna and Implement Avoidance Measures **BIO-15:** Install and Maintain California Red-Legged Frog Exclusion Fencing **BIO-16:** Conduct Clearance Surveys and Monitoring for California Red-Legged Frog **BIO-17:** Conduct Preconstruction Surveys for Overwintering Burrowing Owl and Implement Avoidance Measures **BIO-18:** Conduct Preconstruction Surveys for San Diego Desert Woodrat Middens and Implement Avoidance Measures **BIO-19:** Conduct Preconstruction Surveys for American Badger and Ringtail Dens and Implement Avoidance Measures **BIO-20:** Conduct Preconstruction Surveys for Roosting Bats and Implement Avoidance Measures **AQ-1, EM-2, HWQ-1,** and **HWQ-2** (see above)
BIO-7: Result in permanent or temporary loss or disturbance to habitats identified as, or that may qualify as, an Environmentally Sensitive Habitat Area (ESHA)	II	NI/NI	II	NI/II	**BIO-1** through **BIO-6** (see above) **AQ-1, EM-2, HWQ-1,** and **HWQ-2** (see above)

Table 4.3-7. Summary of Impacts and Mitigation Measures – Biological Resources - Terrestrial

	Impact Significance Class				
	Phase 1		Phase 2 Post-Decom		
Impact Statement	***DCPP***	***PBR/SB***	***DCPP***	***Ops/Marina***	**Mitigation Measures**
under Section 30000 et seq. of the California Coastal Act of 1976.					
BIO-8: Interfere with established wildlife migratory corridors or terrestrial wildlife nursery sites.	III	NI/NI	III	III/NI	None required
BIO-9: Result in the loss or disturbance to federal or State protected wetlands defined under Sections 401 and 404 of the Clean Water Act, the Porter-Cologne Water Quality Control Act, Section 30233 of the Coastal Act, Section 1600 et seq. of the California Fish and Game Code, or other jurisdictional habitats.	II	III/III	II	NI/II	**BIO-1** through **BIO-3, BIO-6,** and **BIO-9** (see above) **EM-2, HWQ-1,** and **HWQ-2** (see above)
BIO-10: Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	NI	NI/NI	NI	NI/NI	None required
BIO-11: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan.	NI	NI/NI	NI	NI/NI	None required
Cumulative Impact	Not cumulatively considerable		Not cumulatively considerable		None required

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

4.4 Biological Resources – Marine

This section describes marine species and habitats in the Project area that could be affected by decommissioning activities, identifies applicable significance thresholds, assesses the Proposed Project's impacts to marine biological resources and their significance, and recommends measures to avoid or substantially reduce any effects found to be potentially significant. The analysis specifically focused on the Diablo Canyon Power Plant (DCPP site) as the railyards are all located inland away from marine biological resources. The environmental setting for marine biological resources is based on information in the *Diablo Canyon Decommissioning Marine Biological Resources Assessment* (PG&E, 2021a), other technical studies prepared by Pacific Gas and Electric Company (PG&E), and literature review.

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and considered in preparing this section:

- Thoroughly analyze all marine biological resources that are present on-site including species abundance, distribution, and status.
- Conduct protocol surveys for sensitive and federally listed species as soon as possible and fully analyze potential effects of the Project on these species.
- Address all direct, indirect, and cumulative effects of the Proposed Project on biological resources.
- Identify specific and clearly defined mitigation measures for special-status species providing quantifiable and enforceable measures to reduce impacts to less-than-significant levels.
- Consider planning and scheduling deconstruction activities according to the migration of marine species including elephant seals, humpback whales, otters, porpoises, and seals that may be impacted by sounds and vibrations.

4.4.1 Environmental Setting

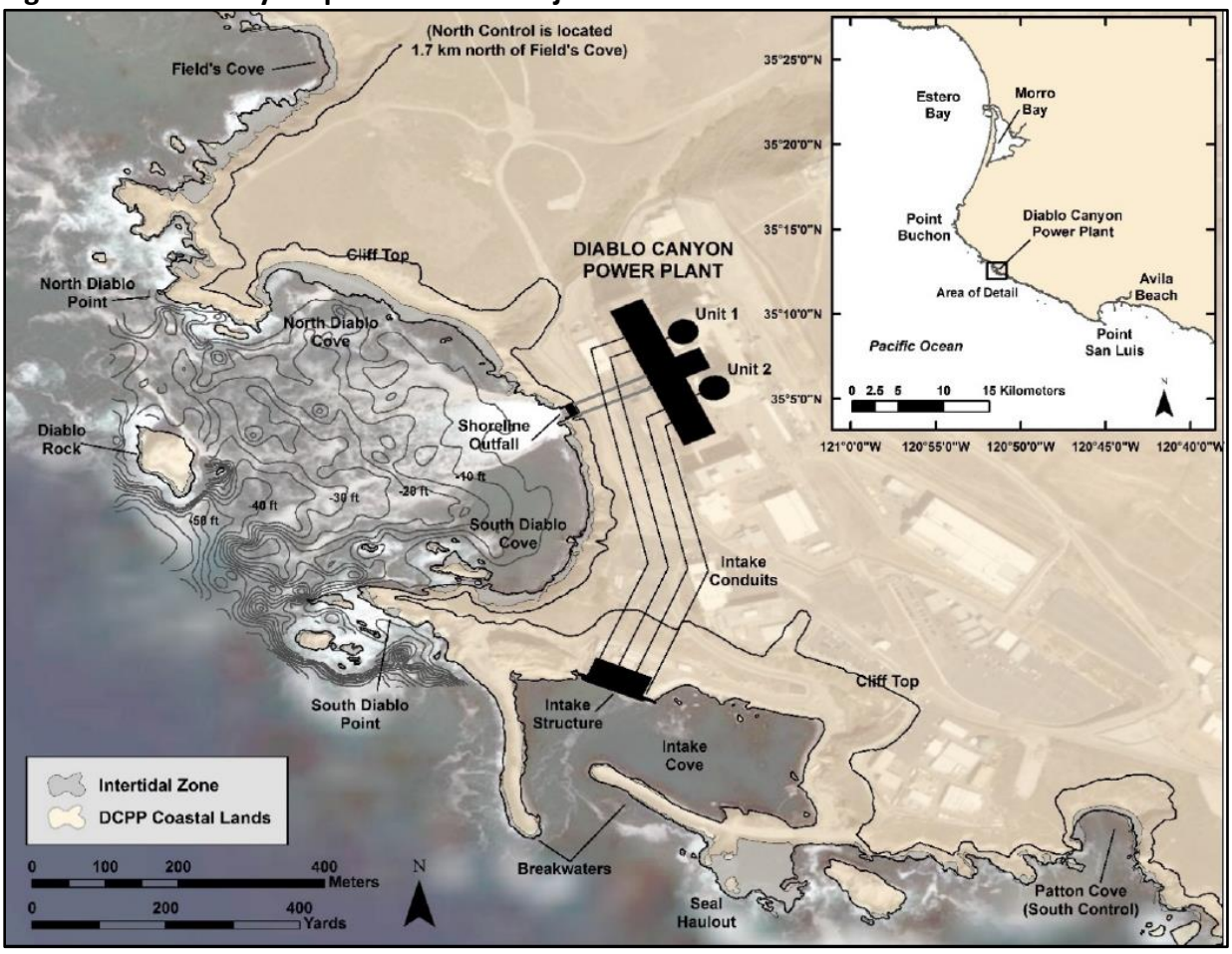
The Project area is located in central California in the eastern Pacific Ocean coastal region, an area influenced by the California Current, which is a cold-water Pacific Ocean current that moves southward along the western coast of North America, beginning off southern British Columbia and ending off southern Baja California. The cold ocean water is highly productive due to the upwelling caused by the prevailing northwesterly winds, which bring nutrient-rich waters to the surface, leading to increased phytoplankton production supporting a diverse and large population of whales, seabirds, and important fisheries.

The approximately 10-mile stretch of shoreline between Point Buchon and Point San Luis consists of wave-exposed rocky headlands along with semi-protected coves.[14] One of these coves is Diablo Cove, where the DCPP Discharge Structure is located, and immediately downcoast of

[14] Headlands are areas of the seaside cliffs that are more resistant to erosion than the areas around them, leaving a portion of rocky land projecting into the sea as portions of the cliffs to either side erode.

Diablo Cove are the existing breakwaters that form the Intake Cove where the DCPP Intake Structure for the plant is located (see Figure 4.4-1).

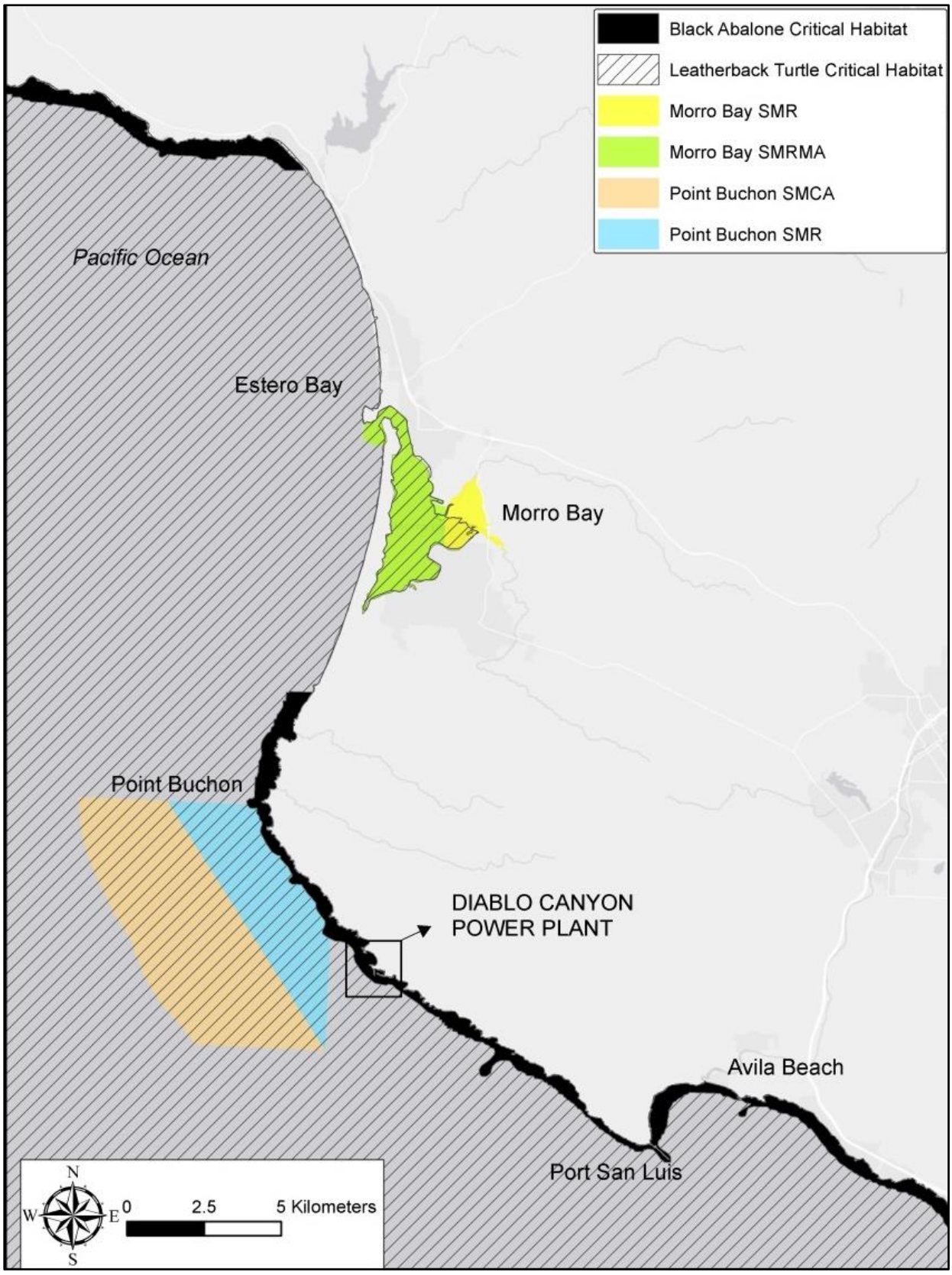
Figure 4.4-1. Vicinity Map and Marine Project Area at the DCPP



Source: PG&E, 2021a - Figure 1.2-1.

While there are no Marine Protected Areas (MPAs) in the Project area, several are in close proximity (California Department of Fish and Wildlife [CDFW], 2018). The nearest MPAs are the Point Buchon State Marine Reserve (SMR) and Point Buchon State Marine Conservation Area (SMCA), located approximately 1 mile offshore and upcoast of the DCPP (Figure 4.4-2). The Morro Bay SMR and Morro Bay State Marine Recreational Management Area (SMRMA) are located approximately 7 miles upcoast of the DCPP (Figure 4.4-2).

Figure 4.4-2. MPAs and Critical Habitat for Leatherback Turtle and Black Abalone Near the DCPP



Source: NOAA, 2011; NOAA, 2012 – Figure 3; CDFW, 2018.

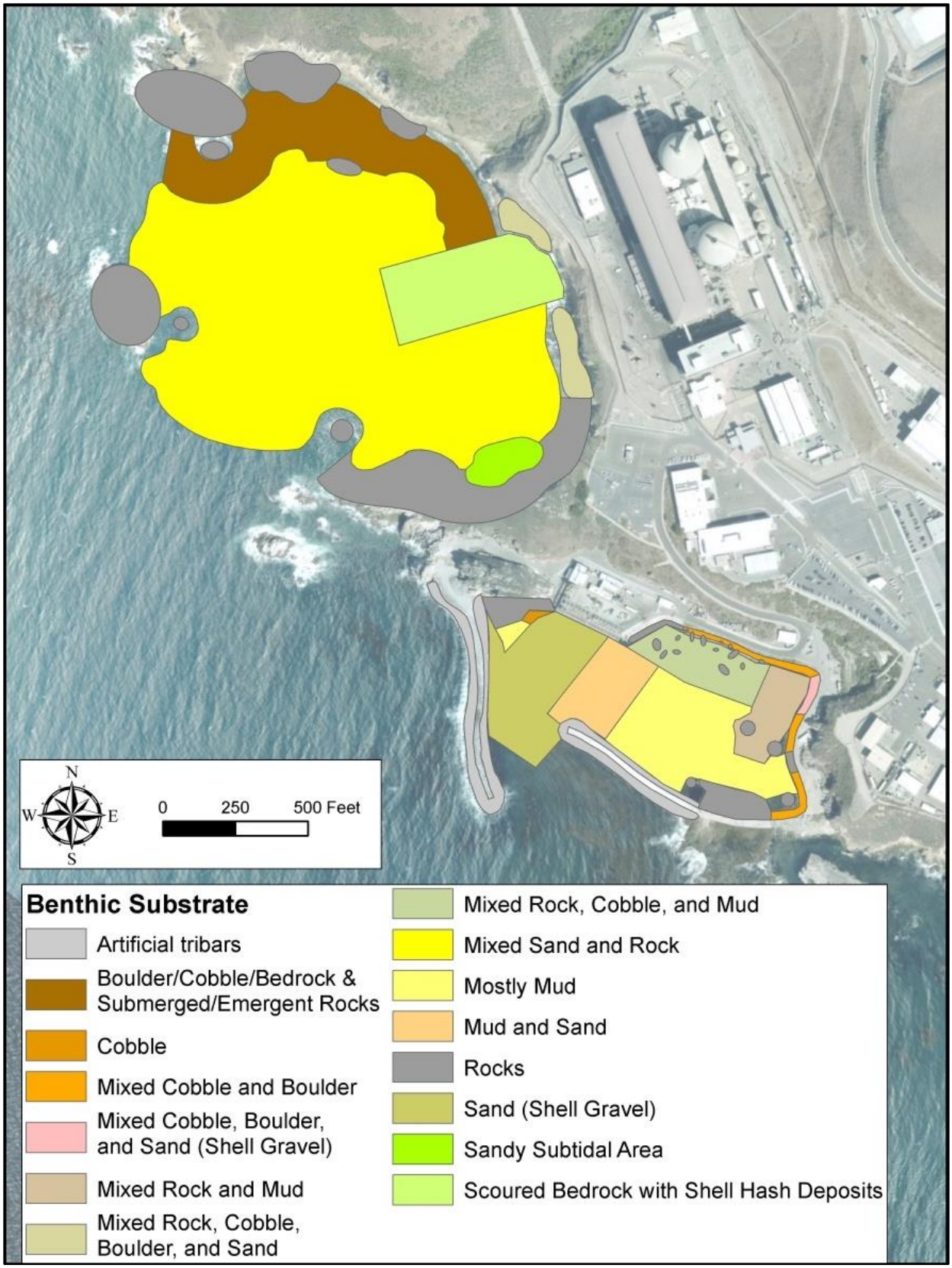
Benthic Habitat and Associated Species

The Project area includes both Diablo Cove and the Intake Cove (see Figure 4.4-1). Diablo Cove has a surface area of approximately 42 acres, and an average depth of approximately -26 feet Mean Lower Low Water (MLLW) with a maximum depth of approximately -60 feet MLLW. The intertidal and subtidal areas of the cove consist predominantly of bedrock, boulder, and cobble fields totaling approximately 41 acres representing 98.3 percent of the cove (see Figure 4.4-3 and Table 4.4-1). Submerged and emergent offshore rocky pinnacles are scattered throughout the cove, while the southern portion of the cove contains approximately 0.7 acres of sandy subtidal habitat. Diablo Creek enters the cove just north of the existing Discharge Structure, providing periodic and seasonal freshwater flow. The northern portion of Diablo Cove has no sandy subtidal areas, and Diablo Rock stands as a prominent feature in the cove, centered at the mouth of the cove. Offshore of the cove, the seabed slopes across the continental shelf for approximately 50 miles to a depth of over 3,000 feet.

The shoreline within the Intake Cove consists of a granite boulder riprap-armored and graded road, a vertical concrete curtain wall forming the ocean-side of the Intake Structure, and some sections of natural rock upcoast of the Intake Structure. The depth of the Intake Cove ranges from -16 feet MLLW in the eastern portion of the cove to -33 feet MLLW adjacent to the Intake Structure. The seabed within the Intake Cove consists of sand and soft sediments totaling approximately 8.1 acres representing 56.8 percent of the cove, while boulder fields, low rock ridges, and emergent rocks constitute approximately 6.2 acres of the cove (see Table 4.4-1). Large areas of the seafloor in the eastern portion of the cove consist of soft, unconsolidated sediments, and the seabed between the Intake Cove entrance and the Intake Structure consists largely of sand (see Figure 4.4-3).

Both the Diablo Cove and Intake Cove have two broad marine benthic habitat areas or zones. The intertidal zone encompasses the area between highest and lowest tides and is subject to varying degrees of tidal submergence. It supports a wide variety of organisms that have adapted to surviving in this challenging, ever-changing environment. The subtidal zone is continually submerged and can encompass the area from the lowest tide zone all the way to the deepest depths of the ocean basins. Within each of these broad zones, more specific habitat types can be delineated based on elevation or water depth, substrate type, or dominant biological community. The following sections discuss the various habitats and associated marine species within the Project area.

Figure 4.4-3. Substrate Types within the Diablo Cove and Intake Cove



Source: PG&E, 2021b.

Table 4.4-1. Substrate Type and Area within Diablo Cove and Intake Cove

Location	Classification	Substrate Type	Area (m^2)	Acres	Percentage
Diablo Cove	Marine: Rock Bottom	Boulder, Cobble/Bedrock, Submerged/Emergent Rock	22,299	5.5	
		Mixed Rock, Cobble, Boulder, and Sand	3,729	0.9	
		Rock	31,226	7.7	
		Scoured Bedrock with Shell Hash Deposit	14,147	3.5	
		Mixed Sand and Rock	94,643	23.4	
		Total	***166,045***	***41.0***	***98.3%***
	Marine: Unconsolidated Bottom	Sandy Subtidal Area	2,867	0.7	
		Total	***2,867***	***0.7***	***1.7%***
Intake Cove	Marine: Rock Bottom	Artificial tribars	7,198	1.8	
		Cobble	225	0.1	
		Mixed Cobble and Boulder	1,795	0.4	
		Mixed Cobble, Boulder, and Sand (Shell Gravel)	405	0.1	
		Mixed Rock and Mud	4,319	1.1	
		Mixed Rock, Cobble, and Mud	5,733	1.4	
		Rock	5,318	1.3	
		Total	***24,993***	***6.2***	***43.2%***
	Marine: Unconsolidated Bottom	Mostly Mud	14,785	3.7	
		Mud and Sand	6,097	1.5	
		Sand (Shell Gravel)	11,959	3.0	
		Total	***32,840***	***8.1***	***56.8%***

Source: PG&E, 2021b.

Intertidal Zone

The rocky intertidal zone along the central coast of California is characterized by a diverse assemblage of algae, invertebrates, and fish (Ricketts et al., 1985; Foster and Schiel, 1985; Schiel and Foster, 2015); the intertidal zone in the Project area predominantly consists of bedrock, boulder, and cobble fields (see Figure 4.4-3). Compliance monitoring of the marine environment within the Project area has been conducted by PG&E since 1976; however, in support of decommissioning activities, supplemental intertidal and subtidal surveys were conducted in 2020 (PG&E, 2021a), and a summary of representative intertidal organisms observed in the Diablo Cove and Intake Cove are provided in Table 4.4-2.

On rocky shores, invertebrates and algae live in zones between the high and low tide marks, with the zones reflecting the ability of species to tolerate the environmental conditions, predation, and competitive pressures at different elevations and locations, and even within the relatively small Project area, variations in substrate type (e.g., bedrock versus boulder and cobble) and wave exposure appear to affect the distribution and abundance of organisms.

Table 4.4-2. Common Intertidal Organisms Observed in Project Area

ALGAE		
Green Algae	Chlorophyta (filamentous green algae)	*Ulva* spp.
	Colpomenia spp.	*Hesperophycus californicus*
Brown Algae	*Egregia menziesii* (feather boa kelp)	*Sargassum muticum*
	Fucus gardneri	
Red Algae	*Centroceras clavulatum*	*Mastocarpus jardinii*
	Corallina vancouveriensis	*Mastocarpus papillatus*
	Endarachne/Petalonia spp.	*Mazzaella affinis*
	Endocladia muricata	*Prionitis lanceolata*
	Gelidium coulteri	non-coralline crust
	Gelidium pusillum	coralline crust
	Grateloupia spp.	
INVERTEBRATES		
Annelida	*Dodecaceria fewkesi* (tube worm)	*Serpulidae polychaetes*
	Phragmatopoma californica (sand tube worm)	*Serpula vermicularis*
	Spirobranchus spinosus (Christmas tree worm)	Spirorbidae
Porifera	Sponges	
Arthropoda	*Balanus* spp. (acorn barnacles)	*Pagurus* spp. (hermit crabs)
	Chthamalus fissus (barnacle)	*Pollicipes polymerus* (leaf barnacle)
	Hemigrapsus nudus (purple shore crab)	*Pugettia producta* (kelp crab)
	Pachygrapsus crassipes (striped shore crab)	*Tetraclita rubescens* (barnacle)
Cnidaria	*Anthopleura elegantissima* (anemone)	*Anthopleura xanthogrammica* (anemone)
Mollusca	*Chlorostoma funebralis* (black turban snail)	*Lottia scabra* (limpet)
	Conus californicus (California cone)	Lottiidae (limpets)
	Cyanoplax hartwegii (chiton)	*Mopalia muscosa* (chiton)
	Fissurella volcano (keyhole limpet)	*Mytilus californianus* (mussel)
	Littorina spp. (periwinkle)	*Mytilus galloprovincialis* (mussel)
	Lottia digitalis (ribbed limpet)	*Nuttallina californica* (chiton)
	Lottia gigantea (owl limpet)	*Serpulorbis squamigerus* (tube snail)
	Lottia pelta (shield limpet)	*Tonicella lineata* (lined chiton)
Echinoderm	*Leptasterias hexactis* (six-rayed star)	*Pisaster ochraceus* (ochre star)
	Parastichopus parvimensis (sea cucumber)	*Patiria miniata* (bat star)
	Strongylocentrotus purpuratus (sea urchin)	

Source: PG&E, 2021a – Appendix 1 - Tables 3.1.1-1, 3.1.2-1, 3.2.1-1, and 4.2.2-1; Appendix 2 – Tables 3.1.1-1, 3.1.3-1, and 3.1.4-1; Appendix 3 – Table 3-1.

For example, in Diablo Cove, upcoast of the Discharge Structure, the substrata includes a mix of rock, boulder, and cobble, with pockets of interspersed sand. The substrate is mostly devoid of macroalgae, with a diatom film covering much of the rocky substrate (PG&E, 2021a). The green alga *Ulva* spp. and red alga *Gelidium coulteri* were commonly observed, with coralline algae less common (PG&E, 2021a). Common sessile invertebrates included the barnacle (*Chthamalus fissus)*, the California mussel (*Mytilus californianus*), and the anemone (*Anthopleura elegantis-*

sima). Limpets such as owl limpets (*Lottia gigantea*), the rough limpet (*L. scabra*), and the shield limpet (*L. pelta*) were also commonly observed.

Conversely, the intertidal zone downcoast of the Discharge Structure consists of a wide bench reef interspersed with some boulder and cobble. The area is comparatively more diverse than the area upcoast of the Discharge Structure, with juvenile articulated coralline algae, crustose coralline algae, and the articulated coralline (*Corallina vancouveriensis)* abundant in the area. In addition, much of the area supports California mussels and the anemone (*A. elegantissima)*. Other invertebrates such as acorn barnacles (*Balanus* spp.) and a variety of limpet species (*L. scabra L. limatula, L. pelta*) were also abundant. No black abalone (*Haliotis cracherodii*), eelgrass (*Zostera* spp.), surfgrass (*Phyllospadix* spp.), or the invasive brown alga *Sargassum horneri* were observed in the intertidal zone downcoast of the Discharge Structure. Black abalone are listed as endangered under the Federal Endangered Species Act (FESA) and discussed in greater detail in the *Listed Species and Critical Habitat* section below.

The intertidal invertebrate assemblage at the wave exposed area of South Diablo Point was different from the invertebrate assemblages found within Diablo Cove, with a higher abundance of mussels and barnacles compared to other areas (PG&E, 2021a). The anemone (*A. elegantissima*), purple sea urchin (*Strongylocentrotus purpuratus*), and the limpet (*L. scabra)* were also abundant, along with encrusting invertebrates such sandcastle worms (*Phragmatopoma californica*) and acorn barnacles (*Balanus* spp.).

In the Intake Cove, upcoast of the Intake Structure, the intertidal zone is predominantly a natural rock face. Non-crustose coralline algae are common in addition to the red algae *Mazaella flaccida* and *Mastocarpus papillatus*. The barnacles *Balanus* spp., *C. fissus*, and *Tetraclita rubescens* were also common, as was the rough limpet *L. scabra*. A total of 22 red abalone (*Haliotis rufuscens*) were observed in this area during the 2020 survey (PG&E, 2021a). Unlike black abalone, red abalone are not protected under the FESA. Downcoast of the Intake Structure, the area was dominated by non-coralline crust and coralline crust, in addition to the red alga *M. papillatus*. Common invertebrates included the rough limpet *L. scabra*, the barnacle *T. rubescens*, other limpet species, and the shore crab *Pachygrapsus crassipes* (PG&E, 2021a). Similar to the Discharge Structure area, no black abalone, eelgrass, surfgrass, or the invasive seaweed *S. horneri* were observed in the area adjacent to the Intake Structure.

The existing East and West Breakwaters, which are constructed of concrete tribars (i.e., concrete blocks in a complex, three-point geometric shape weighing up to 37 tons), protect the Intake Cove. Intertidal surveys noted that the red algae *M. jardinii* and *M. papillatus* were the most abundant species along both Breakwaters inside the Intake Cove. Other abundant algal taxa included non-coralline crust, feather boa kelp (*Egregia menziesii*) and the red alga *Prionitis lanceolata*. Other common algal species included *M. flaccida*, *C. vancouveriensis*, and a complex of articulated coralline red algae (*Calliarthron* spp. and *Bossiella* spp.). Also, giant kelp (*Macrocystis pyrifera*) was present along the East Breakwater but was not present along the West Breakwater (PG&E, 2021a). The most common invertebrates along both Breakwaters included barnacles (*T. rubescens*, *C. fissus*, and *Balanus* spp.) and the limpets (*L. pelta* and *L. scabra)*. Along the East Breakwater, the tube snails *Serpulorbis squamigenus* and *Spirobranchus spinosus*, and the chiton *Mopalia muscisa* were more frequently observed than they were at the West Breakwater (PG&E, 2021a). Fourteen red abalone were observed in the intertidal zone along the

inside of the East Breakwater, while no abalone were observed along the riprap or on the West Breakwater. One black abalone was found during the survey on the East Breakwater and three black abalone were found on the West Breakwater. All four abalone were observed on the intertidal transects on the outside of the Intake Cove. No eelgrass, surfgrass, or the invasive seaweed *S. horneri* were observed.

Subtidal Zone

Similar to the rocky intertidal zone, the rocky subtidal zone along the central coast of California is characterized by a diverse assemblage of algae, invertebrates, and fish (Ricketts et al., 1985; Foster and Schiel, 1985; Schiel and Foster, 2015), and compliance monitoring of the marine environment within the Project area has been conducted by PG&E since 1976. Supplemental subtidal surveys were conducted in 2020 to support decommissioning activities (PG&E, 2021a), and a summary of representative subtidal organisms observed in the Diablo Cove and Intake Cove are provided in Tables 4.4-3 and 4.4-4.

The subtidal algal assemblage within Diablo Cove includes canopy-forming and understory kelps (brown algae) providing habitat for a variety of invertebrates and fishes. *Cystoseira osmundacea* and *Sargassum muticum* are abundant canopy-forming kelps at the shallow water monitoring stations in Diablo Cove, while other kelps observed in Diablo Cove included giant kelp and subcanopy kelps such as *Pterygophora californica* and *Laminaria setchellii*. Approximately 21 acres of kelp were mapped within Diablo Cove (see Figure 4.4-4 and Table 4.4-5) (PG&E, 2021b). Understory algae also consists of a complex of articulated coralline red algae (*Calliarthron* spp. and *Bossiella* spp.), and understory red algae including *Rhodymenia* spp., *Acrosorium ciliolatum*, *Chodracanthus corymbiferus*, a complex of *Farlowia* spp. and *Pikea* spp., *Cryptopleura violacea*, and *Prionitis* spp. (PG&E, 2021a).

At the shallower stations in Diablo Cove, the most abundant macroinvertebrates include the sandcastle worm *P. californica*, purple sea urchins, boring clams (Bivalvia), and the brittle star *Ophiactis simplex*, while at the deeper stations, the most abundant invertebrates were purple sea urchins. Other common invertebrates at the deeper stations include the anemone *A. elegantissima*, the ornate tubeworm *Diopatra ornata*, the marine snail *Chlorostoma brunnea,* and the limpet *Acmaea mitra*. Small or colonial invertebrates commonly observed included bryozoans, sponges (Porifera) including the cobalt sponge *Acanthancora cyanocrypta*, and the orange cup coral *Balanophyllia elegans* (PG&E, 2020a).

Table 4.4-3. Common Subtidal Organisms (Algae and Fish) Observed in Project Area

Green Algae	*Ulva* spp.		*Artedius* spp.
	Chlorophyta (filamentous algae)		*Aulorhynchus flavidus* (tubesnout)
Brown Algae	*Colpomenia* spp.		*Brachyistius frenatus* (kelp surfperch)
	Desmarestia spp.		*Cebidichthys violaceus* (monkeyface prickleback)
	Ectocarpales		*Embiotoca jacksoni* (black surfperch)
	Laminaria setchellii		*Embiotoca lateralis* (striped surfperch)
	Laminariales		*Gibbonsia* spp. (kelpfish)
	Macrocystis spp.		*Girella nigricans* (opaleye)
	Nereocystis luetkeana		*Hypsurus caryi* (rainbow surfperch)
	Pleurophycus gardneri		*Orthonopias triacis* (snubnose sculpin)
	Pterygophora californica		*Oxyjulis californica* (senorita)
	Sargassum muticum		*Oxylebius pictus* (painted greenling)
	Stephanocystis osmundacea	**Fish**	*Paralabrax clathratus* (kelp bass)
Red Algae	non-coralline crust		*Rhacochilus vacca* (pile surfperch)
	coralline crust		*Rhinogobiops nicholsii* (blackeye goby)
	Ahnfeltiopsis linearis		*Scorpaenichthys marmoratus* (cabezon)
	Calliarthron/*Bossiella* spp.		*Sebastes atrovirens* (kelp rockfish)
	Callophyllis spp.		*Sebastes caurinus* (copper rockfish)
	Chondracanthus corymbiferus		*Sebastes chrysomelas* (black and yellow rockfish)
	Cryptopleura ruprechtiana		*Sebastes melanops* (black rockfish)
	Gastroclonium subarticulatum		*Sebastes miniatus* (vermilion rockfish)
	Gracilariaceae		*Sebastes mystinus* (blue rockfish)
	Halymenia/*Schizymenia* spp.		*Sebastes rastrelliger* (grass rockfish)
	Nienburgia andersoniana		*Sebastes serranoides* (olive rockfish)
	Phycodrys isabelliae		*Semicossyphus pulcher* (California sheephead)
	Pikea californica		
	Plocamium pacificum		
	Prionitis lanceolata		
	Rhodymenia spp.		
	Sarcodiotheca gaudichaudii		

Source: PG&E, 2021a – Appendix 4 -Table 3.1-1; Appendix 5 – Tables 3.1-1, 3.2-1, and 3.2.2-1.

Table 4.4-4. Common Subtidal Organisms (Invertebrates) Observed in Project Area

Porifera	encrusting sponge		*Ceratostoma foliatum* (leafy hornmouth)
Cnidaria	*Anthopleura artemisia* (anemone)		*Chlorostoma montereyi* (turban snail)
	Corynactis californica (strawberry anemone)		*Conus californicus* (California cone)
	Pachycerianthus fimbriatus (tube anemone)		*Crassadoma gigantea* (rock scallop)
	Paracyathus stearnsii (stony coral)		*Cryptochiton stelleri* (gumboot chiton)
Annelida	Cirratulidae/Terebellidae (polychaete)		*Diodora aspera* (rough keyhole limpet)
	Diopatra ornata (polychaete)		*Doriopsilla albopunctata* (salted dorid)
	Eudistylia polymorpha (polychaete)		*Doris montereyensis* (sea lemon)
	Myxicola infundibulum (polychaete)		*Flabellina iodinea* (Spanish shawl)
	Serpula vermicularis (polychaete)		*Haliotis rufescens* (red abalone)
	Serpulidae (polychaete)	**Mollusca**	*Hermissenda crassicornis* (nudibranch)
Ascidian	*Boltenia villosa* (stalked tunicate)		*Kelletia kelletii* (Kellet's whelk)
	Cnemidocarpa finmarkiensisT tuninate)		*Mitra idae* (half-pitted miter)
	Didemnum/*Tridemnum* spp. (tunicate)		*Mytilus californianus* (California mussel)
	Styela montereyensis (stalked tunicate)		*Phidiana hiltoni* (Hilton's aeolis)
Echino-derm	*Amphiodia occidentalis* (serpent star)		*Pododesmus cepio* (abalone jingle)
	Cucumaria spp. (sea cucumber)		*Polinices* spp. (white moon snail)
	Eupentacta quinquesemita (sea cucumber)		*Pomaulax gibberosa* (red turban snail)
	Ophiothrix spiculata (spiny brittle star)		*Pteropurpura festiva* (festive murex)
	Parastichopus californicus (sea cucumber)		*Serpulorbis squamigerus* (tube snail)
	Parastichopus parvimensis (sea cucumber)		*Tresus nuttallii* (Pacific gaper)
	Patiria miniata (bat star)	**Arthro-poda**	*Balanus*/*Tetraclita* spp. (Barnacle)
	Pisaster giganteus (giant-spined sea star)		*Loxorhynchus crispatus* (moss crab)
	Pisaster ochraceus (ochre star)		Paguridae (hermit crab)
	Strongylocentrotus franciscanus (red urchin)		*Pagurus* spp. (hermit crab)
	Strongylocentrotus purpuratus (purple urchin)		*Pandalus danae* (dock shrimp)
Ectoproct	Bryozoa (bryozoan)		*Pugettia richii* (cryptic kelp crab)
	Watersipora spp. (bryozoan)		*Romaleon antennarius* (brown rock crab)

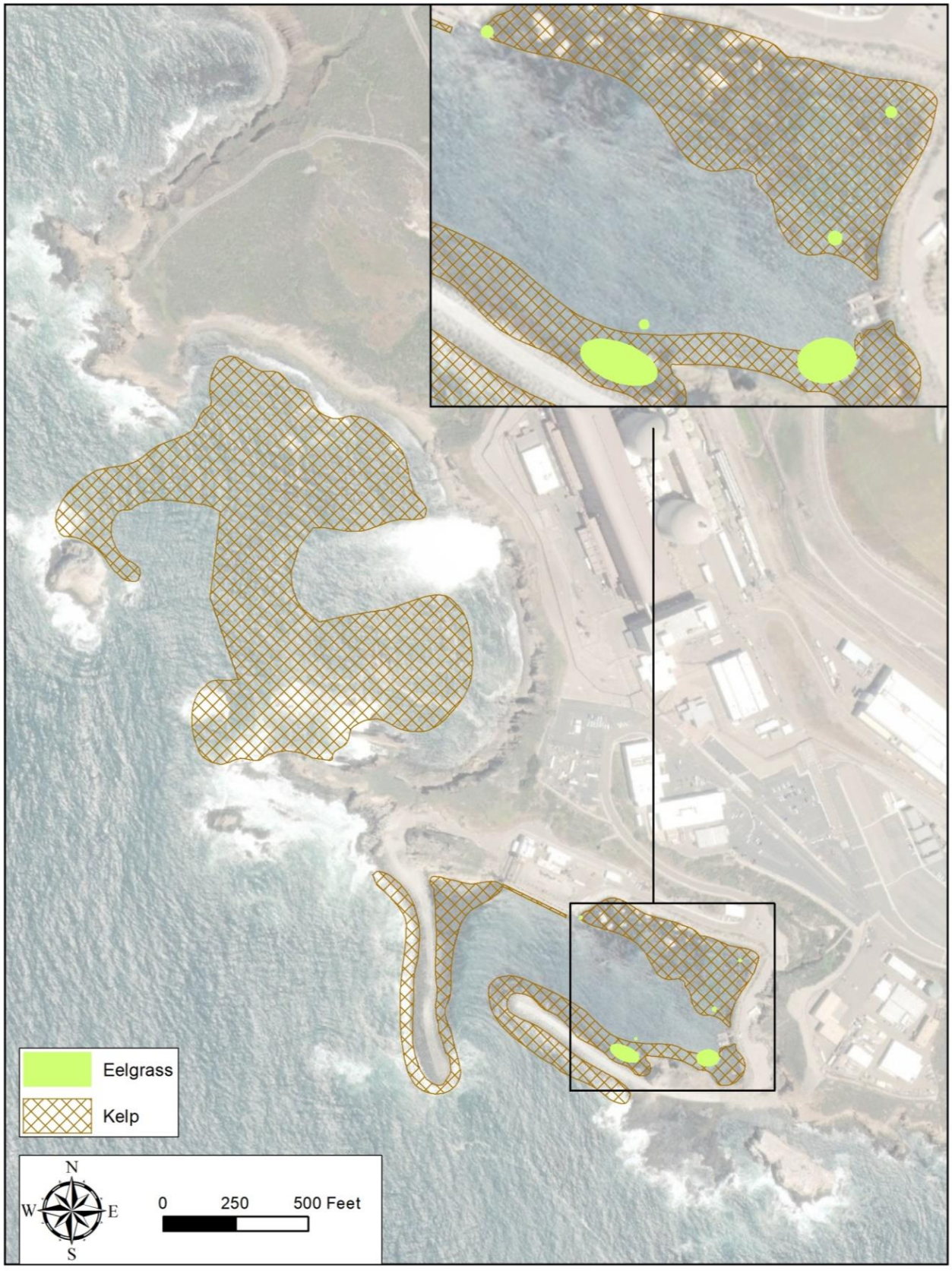
Source: PG&E, 2021a – Appendix 4 -Table 3.1-1; Appendix 5 – Tables 3.1-1, 3.2-1, and 3.2.2-1.

Table 4.3-5. Kelp and Eelgrass Acreage in Diablo Cove and Intake Cove

Location	Classification	Acres
Diablo Cove	Kelp Canopy	20.93
Intake Cove	Kelp Canopy	6.85
Intake Cove	Eelgrass	0.21

Source: PG&E, 2021b.

Figure 4.4-4. Kelp and Eelgrass Distribution in Diablo Cove and Intake Cove



Source: PG&E, 2021b; PG&E, 2021a – Figure 3.1.2.8-3.

Fishes observed within Diablo Cove include senorita (*Oxyjulis californica*) and silversides (*Atherinopsidae*), which were the most abundant fishes observed (PG&E, 2021a). Other common fishes include a complex of black-and-yellow (*Sebastes chrysomelas*) and gopher (*S. carnatus*) rockfishes and painted greenling (*Oxylebius pictus*), while common demersal fishes include black surfperch (*Embiotoca jacksoni*), pile perch (*Racochilus vacca*), blackeye goby (*Rhinogobiops nicholsii*), and blue rockfish (*S. mystinus*). Midwater species commonly observed include a complex of olive (*S. serranoides*) and yellowtail rockfish (*S. flavidus*), and the tubesnout (*Aulorhynchus flavidus*) (PG&E, 2021a).

It should be noted that the seafloor directly offshore of the Discharge Structure is heavily disturbed and scoured due to the turbulent action of the existing discharge plume, and consists mainly of shallow, flat, bedrock interspersed by shallow channels running roughly northwest to southeast (PG&E, 2021a). Pockets of shell hash and fine sediments from the once-through cooling system accumulate between the channels, and biological resources in the immediate area are sparse. However, fishes such as striped mullet (*Mugil cephalus*), leopard shark (*Triakis semifasciata*), and white seabass (*Atractoscion nobilis*) have been observed in this area (PG&E, 2021a).

While the seabed within Diablo Cove is predominantly rock (approximately 98 percent), the seabed within the Intake Cove consists of approximately 57 percent sand and soft sediments (see Table 4.4-1). On the rocky substrate in the Intake Cove, the red algae *Sarcodiothaeca gaudichaudii*, *Rhodymenia* spp., Gracilariaceae, and *C. corymbiferus* were common throughout the survey area (PG&E, 2021a). The green alga *Ulva* spp. was also common, while giant kelp and acid kelp (*Desmerestia* spp.) occurred on all survey transects. Approximately 7 acres of kelp were mapped within the Intake Cove, while on the eastern half of the Intake Cove, the soft bottom habitat supports approximately 0.21 acres of eelgrass (*Zostera* spp.) (see Figure 4.4-4 and Table 4.4-5). Most of the eelgrass beds were confined to the eastern areas of the Intake Cove, but one small patch occurred near the downcoast edge of the Intake Structure. Note that the survey was not conducted in accordance with California Eelgrass Mitigation Policy (CEMP), and therefore it's anticipated that surveys in conformance with the CEMP would be conducted prior to construction to delineate eelgrass beds and potential Project-related impacts (National Oceanic and Atmospheric Administration [NOAA], 2014).

Invertebrate assemblages varied between transects in the Intake Cove, with transects along the western portion of the cove largely colonized by the tube worm *Diopatra ornata*, while tube anemones (*Pachycerianthus fibriatus*) and bat stars (*Patiria miniata*) were present on every transect along with California cone snails (*Conus californicus*) (PG&E, 2021a). A total of four red abalone were observed along the transects in the Intake Cove.

Subtidal surveys along the Breakwaters of the Intake Cove recorded the red algae *Rhodymenia* spp., Turkish towel (*C. corymbiferus*), and the calcareous algae *Calliarthron*/*Bossiella* spp. Some kelps such as *L. setchellii* and *Nereocystis luetkeana* were more common on the exposed offshore sides of the Breakwaters, as well as the red alga *Cryptopleura ruprechtiana*. The brown alga *Dictyoneurum californicum* was observed exclusively on the East Breakwater transects, while giant kelp was less common on the offshore face of the West Breakwater (PG&E, 2021a). Invertebrates found on all transects included the sessile tube snail *S. squamigerus* and purple urchins. Bat stars were more common on the inshore than offshore transects, while the stalked

tunicate *Styela montereyensis* and other tunicate species were more commonly observed in the offshore areas.

A total of 29 fish taxa were recorded during the Breakwater surveys, with blue rockfish and striped surfperch (*Embiotoca lateralis*) being the most commonly observed fishes. Other commonly observed fishes observed included the black and yellow rockfish, olive rockfish (*S. serranoides*), and California sheephead (*S. pulcher*). Senorita and juvenile striped surfperch were only observed on the outside of the Breakwaters, while blackeye gobies were only observed inside of the Breakwaters (PG&E, 2021a).

Forty-seven (47) red abalone were observed along the Breakwaters with most located on the inshore face of the West Breakwater (PG&E, 2021a). Black abalone and the invasive seaweed *S. horneri* were not observed in areas sampled along the Intake Cove transects (PG&E, 2021a).

Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act of 1976 (MSA) as amended by the Sustainable Fisheries Act of 1996 requires the National Marine Fisheries Service (NMFS), regional Fishery Management Councils (FMCs), and other federal agencies to identify and protect important marine, estuarine, and anadromous fish habitat. Regional FMCs, such as the Pacific FMC (PFMC), prepare Fishery Management Plans (FMPs) to identify, protect, and enhance Essential Fish Habitat (EFH) for federally "managed species." EFH is defined as "those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity" (16 United States Code [U.S.C.] 1802 (10)). NMFS further clarified EFH with the following definitions:

- "Waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish.
- "Substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities.
- "Necessary" includes the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle (PFMC, 2020).

Table 4.4-6 identifies fish species that are likely to occur in the Project area that are covered under four FMPs: Coastal Pelagic Species (CPS), Pacific Coast Groundfish (PCG), Pacific Coast Salmon (PCS), and Highly Migratory Species (HMS) (PFMC, 2018, 2019, 2020, 2021). Not all these species have been recorded in surveys reviewed for this assessment; their likelihood of occurrence depends on the habitat type present in the area and each species life history, including range and habitat use. Species that have not been observed but may occur at the site based on their known distribution are included as having a low likelihood of occurrence. Adult, juvenile, and larval distribution patterns (where applicable) have been considered as part of the likelihood of occurrence assessment (PG&E, 2021a).

The Pacific Coast Groundfish FMP also identifies canopy kelp, seagrass, and rocky reefs as a Habitat of Particular Concern (HAPC) for a variety of fishes and macroinvertebrates (PFMC, 2020). HAPCs are subsets of EFH which are rare, particularly susceptible to human-induced degradation, especially ecologically important, or located in an environmentally stressed area. HAPCs are not afforded any additional regulatory protection under the MSA; however, federal actions with

potential adverse impacts to HAPC will be more carefully scrutinized during the consultation process and will be subject to more stringent EFH conservation recommendations.

Table 4.4-6. Taxa Managed under FMPs likely to Occur at the Project Area

Taxa	Fishery Management Plan				Likelihood of Occurrence
	HMS	PCG	CPS	PCS	
Nearshore benthic – hard substrate					
Cabezon (*Scorpaenichthys marmoratus*)		X			High
Rockfishes (*Sebastes* spp.)		X			High
Lingcod (*Ophiodon elongatus*)		X			High
Kelp greenling (*Hexagrammos decagrammus*)		X			High
Nearshore benthic – soft substrate					
English sole (*Parophrys vetulus*)		X			High
Starry flounder (*Platichthys stellatus*)		X			High
Big skate (*Raja binoculata*)		X			High
California skate (*Raja inornata*)		X			High
Curlfin sole (*Pleuronichthys decurrens*)		X			Low
Pacific sanddab (*Citharichthys sordidus*)		X			Low
Sand sole (*Psettichthys melanostictus*)		X			Low
Dover sole (*Microstomus pacificus*)		X			Low
Petrale sole (*Eopsetta jordani*)		X			Low
Nearshore pelagic/water column					
Leopard shark (*Triakis semifasciata*)		X			High
Pacific sardine (*Sardinops sagax*)			X		High
Pacific mackerel (*Scomber japonicas*)			X		High
Northern anchovy (*Engraulis mordax*)			X		High
Jack mackerel (*Trachurus symmetricus*)			X		High
Jacksmelt (*Atherinopsis californiensis*)			X		High
Market squid (*Doryteuthis opalescens*)			X		High
Silversides (Atherinopsidae)		X	X		High
Chinook salmon (*Oncorhynchus tshawytscha*)				X	High
Hake (*Merluccius productus*)		X			Low
Sablefish (*Anoplopoma fimbria*)		X			Low
Round herring (*Etrumeus teres*)	X	X	X	X	Low
Common thresher shark (*Alopias vulpinus*)	X				Low
Pacific herring (*Clupea pallasii*)			X		Low
Pacific saury (*Cololabis saira*)	X	X	X	X	Low
Krill or Euphausiids			X		Low

Source: PG&E 2021c – Table 3.4-2.
Acronyms: HMS = Highly Migratory Species, PCG = Pacific Coast Groundfish, CPS = Coastal Pelagic Species, PCS = Pacific Coast Salmon.

Canopy Kelp HAPC

Of the habitats associated with the rocky substrate on the continental shelf, kelp forests are of primary importance to the ecosystem and serve as important groundfish habitat. Kelp stands provide nurseries, feeding grounds, and shelter to a variety of groundfish species and their prey (Foster and Schiel, 1985). Foster and Schiel (1985) reported that the net primary productivity of

kelp beds may be the highest of any marine community. The defining characteristics of canopy kelp HAPC includes those waters, substrate, and other biogenic habitat associated with canopy-forming kelp species (e.g., *Macrocystis* spp. and *Nereocystis* sp.). Both *Macrocystis* spp. and *Nereocystis sp.* have been observed in the Project area (see Figure 4.4-4).

Seagrass HAPC

Seagrass species found on the West Coast of the US include eelgrass species (*Zostera* spp.), widgeon grass (*Ruppia maritima*), and surfgrass (*Phyllospadix* spp.). These grasses are vascular plants, not seaweeds, forming dense beds of leafy shoots year-round in the lower intertidal and subtidal areas. Eelgrass is found on soft-bottom substrates in intertidal and shallow subtidal areas of estuaries and occasionally in nearshore areas. Surfgrass is found on hard-bottom substrates along higher energy coasts. Studies have shown seagrass beds to be among the areas of highest primary productivity in the world (PFMC, 2020). The defining characteristics of seagrass HAPC includes those waters, substrate, and other biogenic features associated with eelgrass species, widgeon grass, or surfgrass. Surfgrass has been regularly recorded in the lower intertidal zone within Diablo Cove; however, it was not observed during the 2020 surveys conducted immediately around the Discharge Structure and was not observed within the Intake Cove (PG&E, 2021a). Eelgrass beds occur in the shallow subtidal habitat within the eastern half of the Intake Cove (see Figure 4.4-4).

Rocky Reef HAPC

Rocky habitats are generally categorized as either nearshore or offshore in reference to the proximity of the habitat to the coastline. Rocky habitat may be composed of bedrock, boulders, or smaller rocks, such as cobble and grave, and is one of the least abundant benthic habitats, yet are among the most important habitats for groundfish. The rocky reefs HAPC includes those waters, substrates and other biogenic features associated with hard substrate (bedrock, boulders, cobble, gravel, etc.) to Mean Higher High Water (MHHW). Rocky habitat is prevalent in the Project area (see Figure 4.4-3).

Plankton

An organism is considered plankton if it is carried by tides and currents and cannot swim well enough to move against these forces. Some plankton drift for their entire life while others are only classified as plankton when they are young, but they eventually grow large enough to swim against the currents. Plankton are usually microscopic, often less than one inch in length, but can also include larger species like some crustaceans and jellyfish. They are generally divided into two groups: phytoplankton (plants) and zooplankton (animals). Phytoplankton are microscopic plants that perform photosynthesis to convert the sun's rays into energy and take in carbon dioxide and produce oxygen. Zooplankton include microscopic animals (krill, sea snails, pelagic worms, etc.), the young of larger invertebrates and fish, and weak swimmers like jellyfish. Most zooplankton eat phytoplankton, and most are, in turn, eaten by larger animals or by each other. For example, krill may be the most well-known type of zooplankton and is a major component in the diet of many animals including whales. During the daylight hours zooplankton generally drift in deeper waters to avoid predators, but at night these creatures venture up to the surface to feed on phytoplankton.

The phytoplankton community off the California coast primarily consists of diatoms, dinoflagellates, silicoflagellates, and coccolithophores (Bolin and Abbott, 1963). Long-term studies indicate that the phytoplankton community is similar in species composition along the entire coast of California, with the diatom *Chaetoceros* being the most abundant species found along the coast (Bolin and Abbott, 1963). Other dominant species included the diatoms *Skeletonema*, *Nitzschia*, *Eucampia*, *Thalassionema*, *Rhizosolenia* and *Asterionella*, and the dinoflagellates *Ceratium*, *Peridinium*, *Noctiluca*, and *Gonyaulax* (Bolin and Abbott, 1963). Different genera of phytoplankton reached peaks of relative abundance at different times of the year, and it appears that some genera may be indicators of the initial stages of upwelling or of influxes of oceanic surface water (Bolin and Abbott, 1963).

Major zooplankton groups off the California coast include copepods, euphausiids, chaetognaths, molluscs, thaliaceans, and fish larvae, and McGowan and Miller (1980) reported a high degree of variability in species composition in offshore waters and that dominant species vary widely. Loeb et al. (1983) suggested that zooplankton and ichthyoplankton abundances were found to be independent of each other, and that zooplankton abundance decreased from north to south and inshore to offshore and appeared to be related to distribution of surface nutrient levels. The greatest ichthyoplankton abundance occurred off southern California and northern Baja California and was due to large spawning stocks of migratory species such as anchovy, hake, and jack mackerel (Loeb et al., 1983). Seasonal zooplankton abundance fluctuations along the coast appeared to follow the northward seasonal progression of coastal upwelling, with maximum ichthyoplankton abundance associated with periods of relatively stable water conditions prior to the onset of intense coastal upwelling. An entrainment study for DCPP noted 18 taxa comprised 90 percent of the specimens collected, with the most abundant taxa being sculpins (Cottidae, *Artedius* spp., and *Orthonopias triacis*), rockfishes (*Sebastes* spp.), monkeyface eel (*Cebidichthys violaceus*), kelp blennies (*Gibbonsia* spp.), blennies/zoarcoids (unidentified pricklebacks), and blackeye goby (*R. nicholsi*) (PG&E, 2016).

Sea Turtles

Based on their natural distribution, four species of sea turtle may occur in the Project area: green (*Chelonia mydas*), loggerhead (*Caretta caretta*), leatherback (*Dermochelys coriacea*), and olive ridley (*Lepidochelys olivacea*). All are protected under the FESA, with the leatherback turtle also protected under the California Endangered Species Act (CESA). Although sea turtles are not common to the Project area, they have occasionally been reported. According to the California Marine Mammal Stranding Network Database, 12 sea turtles were reported between Morro Bay and Pismo Beach during the 1982 to 1995 period, and of the 12 sightings, 10 were leatherbacks, and one each was a loggerhead and green turtle (Aspen, 2005). Olive ridley, green, and loggerhead sea turtles are tropical residents of the eastern Pacific, but move into temperate waters, particularly during the summer months. A population of green turtles has been documented in south San Diego Bay feeding within the eelgrass beds (US Navy, 2013). Leatherback turtles migrate for 10 to 12 months from nesting areas in the western and central Pacific to reach coastal waters on the eastern Pacific, including southern California where they feed. Table 4.4-7 summarizes the status of sea turtle species and the likelihood of occurrence in the Project area.

Table 4.4-7. Sea Turtle Species Status and Potential to Occur at the Project Area

Species and Management Unit (ESU, DPS, or stock)	Scientific Name	FESA	CESA	Likelihood of Occurrence
Green turtle - East Pacific DPS	*Chelonia mydas*	FT	NL	Low
Leatherback turtle	*Dermochelys coriacea*	FE	SE	Low
Loggerhead turtle - North Pacific DPS	*Caretta caretta*	FE	NL	Very Low
Pacific Olive Ridley turtle - Mexico's Pacific Coast breeding population - All other populations	*Lepidochelys olivacea*	 FE FT	 NL NL	Very Low

Source: PG&E, 2021a – Table 3.2.2-1.
Acronyms: CESA = California Endangered Species Act, ESU = Evolutionarily Significant Units, FESA = Federal Endangered Species Act, NL = Not Listed, DPS = Distinct Population Segment, FE = FESA Endangered, FT = FESA Threatened, SE = CESA Endangered

Critical habitat for leatherback turtle was designated in 2012, and includes waters adjacent to the states of California, Oregon, and Washington (NOAA, 2012). In California, the critical habitat encompasses coastal waters from the shoreline to the 10,000 feet depth contour between Point Arena in Mendocino County and Point Arguello in Santa Barbara County and overlaps the Project area (see Figure 4.4-2).

Seabirds

Seabirds occur year-round in the Project area and the species present vary according to the season with the highest density of seabirds during the summer and autumn due to the presence of migrants, winter visitors, and nesting residents at the same time (Dohl et al., 1983). During a three-year study of seabirds off central and northern California, Dohl et al. (1983) reported up to 35 common species and 34 rare species, and also found that the seabird fauna of central California was dominated by cool-water species but also includes subtropical species during the late summer and autumn. Table 4.4-8 lists the seabird species likely to occur in the Project area. In the case of species that have a listing status, that status is related to their nesting habitats. None of the listed species are known to nest in the Project area; therefore, both listed and non-listed species are addressed. Nesting sites in the vicinity of the Project area include Morro Rock, Pillar Rock, Spooner's Cove, Point Buchon, Lion Rock, and several unnamed rocks. Nesting species include the pelagic cormorant, Brandt's cormorant, western gull, and the pigeon guillemot (PG&E, 2021c).

Table 4.4-8. Common Seabird Species with Potential to Occur in the Project Area

Common Name	Scientific Name	Listing Status	Likelihood of Occurrence
Pigeon Guillemot	*Cepphus columba*	-	High (foraging and nesting*)
Rhinoceros Auklet	*Cerorhinca monocerata*	WL (nesting colony)	High (foraging)
Common Loon	*Gavia immer*	CSC (nesting)	High (foraging)
Gull-billed Tern	*Gelochelidon nilotica*	BCC, CSC (nesting colony)	Low (foraging)
Caspian Tern	*Hydroprogne caspia*	BCC (nesting colony)	Low (foraging)
California Gull	*Larus californicus*	WL (nesting colony)	High (foraging)
Western Gull	*Larus occidentalis*	-	High (foraging and nesting*)

Table 4.4-8. Common Seabird Species with Potential to Occur in the Project Area

Common Name	Scientific Name	Listing Status	Likelihood of Occurrence
Ashy Storm-petrel	*Oceanodroma homochroa*	BCC, CSC (nesting colony)	Medium (foraging)
Black Storm-petrel	*Oceanodroma melania*	CSC (nesting colony)	Medium (foraging)
American White Pelican	*Pelecanus erythrorhynchos*	CSC (nesting colony)	Low (foraging)
California Brown Pelican	*Pelecanus occidentalis californicus*	FP (nesting colony & communal roosts)	High (foraging)
Double-crested Cormorant	*Phalacrocorax auritus*	WL (nesting colony)	High (forging)
Pelagic Cormorant	*Phalacrocorax pelagicus*	-	High (foraging and nesting*)
Brandt's Cormorant	*Phalacrocorax penicillatus*	-	High (foraging and nesting*)
Pied-billed Grebe	*Podilymbus podiceps*	-	Medium (foraging)
Cassin Auklet	*Ptychoramphus aleuticus*	CSC, BCC (nesting colony)	Medium (foraging)
Black Skimmer	*Rynchops niger*	BCC, CSC (nesting colony)	Medium (foraging)
California Least Tern	*Sternula antillarum browni*	FE, SE, FP (nesting colony)	Low (foraging)
Scripps's Murrelet	*Synthliboramphus scrippsi*	FC, ST, BCC (nesting colony)	Low(foraging)
Elegant Tern	*Thalasseus elegans*	WL (nesting colony)	Low(foraging)

Sources: PG&E, 2022a – Table 4.4-1; PG&E, 2021c -Table 3.4-3.
Acronyms: BCC = USFWS Bird of Conservation Concern, CSC = State Species of Special Concern, FC = Federal Candidate, FE = Federal Endangered, FP = State Fully Protected, FT = Federal Threatened, SE = State Endangered, ST = State Threatened, WL = State Watch List
Note(s): *Species that nest on the DCPP site are addressed in Section 4.3, *Biological Resources – Terrestrial*.

Marine Mammals

All marine mammals are protected under the Marine Mammal Protection Act of 1972 (MMPA), which prohibits, with certain exceptions, the "take" of marine mammals in US waters. "Take" means to harass, feed, hunt, capture, or kill any marine mammal, or to attempt to do so (50 Code of Federal Regulations [CFR] 216.3). In a comprehensive marine mammal census program, Dohl et al. (1983) reported 27 marine mammal species in central California and created three categories of marine mammal species in central California, which include: (1) migrants that pass through the area on their way to calving or feeding grounds, (2) seasonal visitors that remain for a few weeks to feed on a particular food source, and (3) residents of the area. Of the 27 species, 20 were cetaceans (i.e., whales, dolphins, and porpoises), six were pinnipeds (i.e., seals and sea lions), and one was a fissiped (the sea otter). Some species, like the southern sea otter, are endemic to coastal central California and occur year-round, while several species are largely restricted to the waters of the California Current and occur in high numbers off central California. These species include the California sea lion, northern elephant seal, and during its migration, the California gray whale (Dohl et al., 1983). Table 4.4-9 lists the marine mammal species likely to occur in the Project area.

Table 4.4-9. Marine Mammals with Potential to Occur in the Project Area

Common Name	Scientific Name	Listing Status	Likelihood of Occurrence
Guadalupe fur seal	*Arctocephalus townsendi*	FT/ST	Low
Northern fur seal	*Callorhinus ursinus*		Low
Southern sea otter	*Enhydra lutris nereis*	FT/S-FP	High
Stellar sea lion	*Eumetopias jubatus*	FE	Low
Northern elephant seal	*Mirounga angustirostris*	S-FP	Medium
Harbor seal	*Phoca vitulina richardii*		High
California sea lion	*Zalophus californianus*		High
Minke whale	*Balaenoptera acutorostrata*		Low
Blue whale	*Balaenoptera musculus*	FE	Low
Fin whale	*Balaenoptera physalus*	FE	Low
Sei whale	*Balaenoptera borealis*	FE	Low
California gray whale	*Eschrichtius robustus*		Medium
Long-beaked common dolphin	*Delphinus capensis*		Low
Short-beaked common dolphin	*Delphinus delphis*		Low
Risso's dolphin	*Grampus griseus*		Low
Pacific white-sided dolphin	*Lagenorhynchus obliquidens*		Medium
Harbor porpoise	*Phocoena phocoena*		Low
Dall's porpoise	*Phocoenoides dalli*		Low
Killer whale	*Orcinus orca*		Low
Common bottlenose dolphin	*Tursiops truncatus*		Medium

Source: PG&E, 2021a – Table 3.2.1-1; PG&E, 2022a – Table 4.1-1; PG&E 2021c – Table 3.4-4.
Acronyms: CESA = California Endangered Species Act, FESA = Federal Endangered Species Act, FE = Federally listed endangered species, FT = Federally listed threatened species, S-FP – State Fully Protected, ST = State Threatened

Invasive and Non-Native Marine Species

A survey for the invasive seaweed *Caulerpa* spp. was completed along the Intake Structure and offshore areas in 2020, and no *Caulerpa* was detected. In addition, the invasive alga *S. horneri* was not observed during any of the surveys conducted in 2020 in the Diablo Cove and Intake Cove (PG&E, 2021a).

Listed Species and Critical Habitat

This section includes a discussion of species listed under the FESA and the CESA that have not been noted in previous sections and have been observed in the Project area or determined to have potential to occur due to presence of suitable habitat (Table 4.4-10).

Black Abalone

Critical habitat for black abalone was designated in 2011 and encompasses over 139 square miles of intertidal and shallow subtidal rocky habitat in California from Del Mar Landing Ecological Reserve to the Palos Verdes Peninsula (NOAA, 2011). Within these geographical boundaries, the designation encompasses all rocky intertidal and subtidal habitats from the mean higher high-water line to a depth of 20 feet MLLW, as well as coastal marine waters overlying this zone. During development of the Final Rule, critical habitat was divided into 20 specific areas of roughly equal area that may require special management considerations or protection. The Project area

occurs within Specific Area 10 and includes rocky intertidal and subtidal habitats from Montaña de Oro, San Luis Obispo County to just south of Government Point, Santa Barbara County (see Figure 4.4-2).

Tidewater Goby

The tidewater goby (*Eucyclogobius newberryi*) is a small (less than 2.5 inches) benthic fish species that inhabits coastal lagoons and streams between Del Norte County in northern California to Agua Hedionda Lagoon in northern San Diego County, southern California. The species is currently listed as federally endangered (59 FR 5494) and has been proposed for down listing to threatened status since 2014 (79 FR 14340). Critical habitat for tidewater goby in San Luis Obispo County was designated in 2013 (78 FR 8746), but areas are restricted to creeks. The closest creeks to the Project area join Morro Bay to the north and San Luis Bay to the south, neither of which are in the Project area. No records of adult tidewater goby presence, historical or recent, were found for drainages on the DCPP site (PG&E, 2020a). No suitable habitat is present in Diablo Creek as the creek has no estuary and ascends steeply over naturally occurring rocky substrate from the mouth upstream, precluding the occurrence of gobies. Coon Creek, approximately 4 miles upcoast from the Project area, presents very limited and marginal habitat for the tidewater goby at the mouth of the stream; however, no adult gobies are currently or historically known to inhabit this stream and the stream is not listed in the habitats occupied in the designated critical habitat (USFWS, 2013).

Green Sturgeon

Green sturgeon (*Acipenser medirostris*) is an anadromous species, and the oceanic range encompasses the Project area. A distinct population segment (DPS) is the smallest division of a taxonomic species permitted to be protected under the FESA, and two DPSs are recognized for the green sturgeon based on genetic information and spawning site fidelity (NMFS, 2018a). The southern DPS, which includes fish that spawn in rivers, is listed under the FESA as endangered (68 FR 4433) but not listed under the CESA. Green sturgeon spawn on the west coast of North America in the Rogue, Klamath, and Sacramento rivers. During their oceanic phase they range from the Bering Sea, Alaska to Mexico, although tagging studies and patterns of coastal abundance indicate that green sturgeon are more likely to migrate north towards Washington. They are typically observed in bays and estuaries with notable populations in the Columbia River estuary, Willapa Bay, and Grays Harbor during the late summer. In California, green sturgeon are incidentally collected in the white sturgeon trammel net monitoring program in San Francisco Bay. Juveniles spend 1 to 3 years in river systems before entering the ocean. No green sturgeon have been observed at DCPP, despite decades of scientific surveys and an impingement study, therefore they are highly unlikely to occur at the Project area (PG&E, 2021a).

Steelhead Salmon

Steelhead salmon (*Oncorhynchus mykiss irideus*) is an anadromous fish that spawns in freshwater streams and spends part of its life in the ocean. Under the FESA and the CESA, anadromous steelhead salmon are divided into several DPSs with each DPS associated with a stretch of coastline containing several spawning habitats (see Table 4.4-10). The south-central California coast DPS encompasses streams upcoast and downcoast of the Project area, from the Pajaro

River (Santa Cruz County) to, but not including the Santa Maria River (Santa Barbara County) (61 FR 41541). This steelhead salmon DPS is listed as threatened under the FESA and is not listed under the CESA. No critical habitat occurs at the Project area. The distribution of steelhead salmon from each DPS during their ocean phase is not well documented; therefore, while locally spawning steelhead salmon may be more likely to have originated from the south-central California coast DPS, steelhead salmon that occur at the Project area may belong to any of the West Coast DPS designated under the FESA.

Diablo Creek runs through the center of the Project area and meets the ocean approximately 330 feet upcoast of the Discharge Structure. While *O. mykiss irideus* have been documented in Diablo Creek, the studies did not determine whether these fish were migratory steelhead or resident rainbow trout (Aspen, 2005). The mouth of Diablo Creek is assumed to be impassible to steelhead salmon in the creek due to migration barriers located near the mouth of the creek, and therefore it was assumed that these fish did not migrate to the ocean. Steelhead salmon may occur at the Project area because their oceanic distribution overlaps the area; however, they have not been recorded in the countless diver surveys at the DCPP, so are highly unlikely to occur.

Chinook Salmon

Chinook salmon (*Oncorhynchus tshawytscha*) is an anadromous fish that spawns in freshwater streams and spends part of its life in the ocean. Under the FESA and the CESA, chinook salmon are divided into management units called Evolutionarily Significant Units (ESUs). Each ESU is associated with a river catchment that contains spawning habitat and is sometimes further broken down into seasonal ESUs. Within California there are three listed, one experimental, and one candidate ESU. These ESUs are shown in Table 4.4-10 alongside their current listing status. San Francisco Bay is the most southerly river mouth that Chinook salmon migrate through in California. These include fish that are part of the Sacramento River and Central Valley/San Joaquin River ESUs. Chinook salmon do not use rivers and streams adjacent to the Project area to spawn but may occur within the Project area because their oceanic distribution overlaps the Project area; however, they have not been recorded in the countless diver surveys at the DCPP, so are highly unlikely to occur (PG&E, 2021a).

Table 4.4-10. Species Listed under FESA or CESA with Potential to Occur in the Project Area

Species and Management Unit (ESU, DPS, or stock)	Scientific Name	FESA	CESA	Likelihood of Occurrence
Black abalone	*Haliotus cracherodii*	FE	NL	Occurs
Tidewater goby	*Eucyclogobius newberryi*	FE	NL	Very Low[1]
Green sturgeon	*Acipenser medirostris*	FE	NL	Very Low
White Sturgeon	*Acipenser transmontanus*		SSC	Very Low
Steelhead salmon				
- Southern California DPS		FE	C	
- California Central California DPS		FT	NL	
- Northern California DPS	*Oncorhynchus mykiss irideus*	FT	NL	Low
- Summer run		NL	cCE	
- Central California coast DPS		FT	NL	
- South-central California coast DPS		FT	NL	

Table 4.4-10. Species Listed under FESA or CESA with Potential to Occur in the Project Area

Species and Management Unit (ESU, DPS, or stock)	Scientific Name	FESA	CESA	Likelihood of Occurrence
Chinook salmon				
- Upper Klamath and Trinity rivers ESU		C	CT	
- California coastal ESU	*Oncorhynchus tshawytscha*	FT	NL	
- Sacramento River winter-run ESU		FE	CE	Low
- Central Valley spring-run ESU		FT	CT	
- Central Valley spring-run in San Joaquin River		e	NL	

Source: PG&E, 2021a – Table 3.2.2-1.
Acronyms: C = Candidate, cCE = Candidate CESA Endangered, CESA = California Endangered Species Act, CT = CESA Threatened, DPS = Distinct Population Segment, ESU = Evolutionarily Significant Unit, e = FESA Experimental Population, FE = FESA Endangered, FESA = Federal Endangered Species Act, FT = FESA Threatened, NL = Not Listed, SSC = Species of Special Concern
[1] Likelihood refers to encountering adult tidewater goby in the marine environment, not an assessment of their presence in brackish streams in the Project area.

4.4.2 Regulatory Setting

Relevant federal and state laws, regulations, and policies that pertain to marine biological resources are summarized here as well as in Appendix C. Also, pertinent local regulations are summarized below.

Clean Water Act

The federal Water Pollution Control Act Amendments of 1972 (33 United States Code [USC] 1251–1376), as amended by the Water Quality Act of 1987, and better known as the Clean Water Act (CWA), is the major federal legislation governing water quality. The purpose of the federal CWA is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Discharges into waters of the United States are regulated under the CWA. Waters of the United States currently include the territorial seas and traditional navigable waters, perennial and intermittent tributaries to those waters, certain lakes, ponds, and impoundments, and wetlands adjacent to jurisdictional waters (33 C.F.R. § 328.3). Important applicable sections of the CWA are discussed below:

- Section 401 requires an applicant for any federal permit that proposes an activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the CWA. Certification is provided by the respective Regional Water Quality Control Board (RWQCB). A Section 401 permit from the State Water Resources Control Board (SWRCB) or RWQCB would be required for issuance of a permit by the US Army Corps of Engineers (USACE).
- Section 404 authorizes the USACE to issue permits for the discharge of dredged or fill material into waters of the US, including wetlands, streams, rivers, lakes, coastal waters or other water bodies or aquatic areas that qualify as waters of the US.

Rivers and Harbors Appropriation Act

The Rivers and Harbors Appropriation Act of 1899 (33 USC 403 et seq.), commonly known as the Rivers and Harbors Act (RHA), prohibits the construction of any bridge, dam, dike, or causeway over or in navigable waterways of the United States without congressional approval. Under RHA Section 10, the USACE is authorized to permit structures in or over navigable waters. Building or modifying wharves, piers, jetties, and other structures in or over the waters of the United States requires USACE approval through the Section 10 permit process. In addition, Section 14 (33 U.S.C. §408), requires that any proposed occupation or use of an existing USACE civil works project be authorized by the Secretary of the Army. An alteration refers to any action by any entity other than the USACE that builds upon, alters, improves, moves, occupies, or otherwise affects the usefulness, or the structural or ecological integrity of a USACE project.

Endangered Species Act

The FESA protects plants and wildlife that are listed as endangered or threatened by the US Fish and Wildlife Service (USFWS) and NMFS. FESA Section 9 prohibits the taking of endangered wildlife, where taking is defined as to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50 Code of Federal Regulations [CFR] 17.3). The term “harm” is defined as an “act which actually kills or injures wildlife,” including through “significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.” The term “harass” means an act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, including breeding, feeding or sheltering (50 CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land, as well as removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law. Under FESA Section 7, lead federal agencies are required to consult with the USFWS or NMFS if the lead agency determines that its actions, including permit approvals or funding, may adversely affect an endangered species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS or NMFS may issue an incidental take statement allowing take of the species that is incidental to another authorized activity, provided the action will not jeopardize the continued existence of the species. In cases where the federal agency determines its action may affect, but would be unlikely to adversely affect, a federally listed species, the agency may choose to informally consult with the USFWS and/or NMFS. This informal consultation typically involves incorporating measures intended to ensure effects would not be adverse. Concurrence from the USFWS and/or NMFS concludes the informal process. Without such concurrence, the federal agency may formally consult to ensure full compliance with the FESA.

Marine Mammal Protection Act

The MMPA prohibits, with certain exceptions, the take of marine mammals in United States waters and by United States citizens on the high seas and the importation of marine mammals and marine mammal products into the United States. Under the MMPA, “take” is defined as "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal" (16 U.S.C. 1362) and further defined by regulation (50 CFR 216.3) as "to harass, hunt, capture, collect, or kill, or attempt to harass, hunt, capture, collect, or kill any marine mammal”. NMFS administers

the MMPA. Under the 1994 Amendments to the MMPA, harassment is statutorily defined as any act of pursuit, torment, or annoyance which:

- (Level A Harassment) has the potential to injure a marine mammal or marine mammal stock in the wild; or,
- (Level B Harassment) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering but which does not have the potential to injure a marine mammal or marine mammal stock in the wild.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits take of nearly every bird for which members of the bird's taxonomic family are considered to be migratory. This results in the inclusion of most species of birds afforded protection. Under the MBTA, take means only to kill, directly harm, or destroy individuals, eggs, or nests, or to otherwise cause failure of an ongoing nesting effort.

Magnuson-Stevens Fishery Conservation and Management Act

The MSA was established to promote domestic and commercial fishing under sound conservation and management principles. NMFS, as a branch of the NOAA, implements the act via eight regional Fisheries Management Councils (FMCs). The FMCs in turn prepare and implement Fishery Management Plans (FMPs) in accordance with local conditions. The Pacific FMC is responsible for the Pacific region, in which the study area is located. The FMPs also establish EFH for the species they manage and require consultation by a lead agency with NMFS for actions that may adversely affect EFH. Following receipt of an EFH Assessment, NMFS will provide EFH Conservation Recommendations to the lead agency detailing measures that may be taken by the agency to conserve EFH. Within 30 days of receipt of EFH Conservation Recommendation, the project lead agency must respond in writing, including a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. These measures will be incorporated into the final project.

California Coastal Act

The California Coastal Act (CCA) is intended to provide protection of the unique nature and public interest values of the state's coastal fringe. Development activities, which are broadly defined by the CCA to include (among others) construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal development permit. The CCA is administered by the California Coastal Commission (CCC) or by local jurisdictions operating under adopted Local Coastal Programs that have been approved by the CCC.

California Endangered Species Act

The CESA authorizes the California Fish and Game Commission to designate endangered, threatened, and rare species and to regulate the taking of these species (California Fish and Game Code [FGC] Sections 2050–2098). The CESA defines endangered species as those whose continued existence in California is jeopardized. State-listed threatened species are those not presently

facing extinction, but that may become endangered in the foreseeable future. FGC Section 2080 prohibits the taking of state-listed plants and animals. Unlike the FESA, the CESA does not include harassment within its take definition and as such, has a statutorily higher threshold standard for take than does the FESA. The California Fish and Game Commission also designates fully protected or protected species as those that may not be taken or possessed without a permit from the California Fish and Game Commission and/or CDFW. Species designated as fully protected or protected may or may not be listed as endangered or threatened. When a species is both state- and federally-listed, an expedited request for consistency with the USFWS biological opinion may be issued through a request for Section 2080.1 consistency determination, if take authorization under the CESA is required. The CDFW is charged with implementing and enforcing the regulations set by the FGC, as well as providing biological data and expertise to inform the California Fish and Game Commission's decision-making process.

California Fish and Game Code

The FGC is implemented by the California Fish and Game Commission, as authorized by Article IV, Section 20, of the Constitution of the State of California. FGC Sections 3503, 3503.5, 3505, 3800, and 3801.6 protect all native birds, birds of prey, and nongame birds, including their eggs and nests, that are not already listed as fully protected and that occur naturally within the state. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (e.g., hawks, owls, eagles, and falcons), including their nests or eggs. As defined in the Fish and Game Code, "take" means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill (Fish and Game Code Section 86). The CDFW is the state agency that manages native fish, wildlife, plant species, and natural communities for their ecological value and their benefits to people. The CDFW oversees the management of marine species through several programs, some in coordination with NMFS and other agencies.

San Luis Obispo County Code Title 23 Coastal Zone Land Use Ordinance

The Coastal Zone Land Use Ordinance was created to protect and enhance the significant natural resources within the County and applies to all land use and development activities within the unincorporated areas of the County that are located within the California Coastal Zone established by the California Coastal Act of 1976. The ordinance includes the following sections pertaining to marine biological resources:

- Section 23.07.170 (Environmentally Sensitive Habitats) - Applies to development proposed within or adjacent to (within 100 feet of the boundary of) an ESHA. The County ordinance separates ESHAs into two categories:
  - Mapped ESHA – Includes wetlands, coastal streams, and riparian vegetation, terrestrial and marine habitats and are mapped as Land Use Element combining designations.
  - Unmapped ESHA – Includes, but are not limited to, known wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats that may not be mapped as Land Use Element combining designations. The existence of an Unmapped ESHA is determined by the County at or before the time of application acceptance and shall be based on the best available information.

- Section 23.07.178 (Marine Habitats) - The provisions of this section are intended to preserve and protect habitats for marine fish, mammals and birds. Development within or adjacent to marine habitats is subject to the provisions of this section.

  a. Protection of kelp beds, offshore rocks, reefs and intertidal areas. Development shall be sited and designed to mitigate impacts that may have adverse effects upon the habitat, or that would be incompatible with the continuance of such habitat areas.

  b. Siting of shoreline structures. Shoreline structures, including piers, groins, breakwaters, seawalls and pipelines shall be designed or sited to avoid and to minimize impacts on marine habitats.

  c. Coastal access. Coastal access shall be monitored and regulated to minimize impacts on marine resources. If negative impacts are demonstrated, then the appropriate agency shall take steps to mitigate these impacts, including limitations of the use of the coastal access.

4.4.3 Significance Criteria

The significance criteria used to evaluate the Project impacts to biological resources are based on Appendix G of the State CEQA Guidelines. A significant impact would occur if the Project would:

- Result in temporary or permanent disturbance to, or destruction of, marine habitat (or its functional habitat value) that is recognized as biologically or economically significant in federal, state, or local policies, statutes, or regulations, result in a net loss in the functional habitat value of an Environmentally Sensitive Habitat Area (ESHA), or result in the temporary or permanent loss or degradation of Essential Fish Habitat (EFH) Habitat Areas of Particular Concern (HAPC).
- Result in the loss or decline in the local population of a federal- or state-listed threatened, endangered, or candidate species, or loss or disturbance to federally designated critical habitat; result in the potential loss or decline in the local population of any other regulated, fully protected, candidate, sensitive or special-status species identified under federal, state, local, or regional plans, policies and regulations, or by CDFW and USFWS; or result in any “take” of an endangered, threatened, or candidate species, CDFW fully protected species, or other special-status species.
- Result in a Level A or Level B Harassment, which is defined under the Marine Mammal Protection Act as, any act of pursuit, torment, or annoyance which has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering of a marine mammal or marine mammal stock in the wild.
- 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.
- Create an adverse effect on waters of the US defined under Section 404 of the Clean Water Act; waters of the State defined under Section 404 of the Clean Water and the Porter-Cologne Water Quality Control Act; jurisdictional features defined under Section 30233 of the Coastal

Act; jurisdictional features defined under Section 1600 *et seq.* of the California Fish and Game Code; or other jurisdictional waters through direct removal, filling, hydrological interruption, or other means.

- Conflict with any local policies or ordinances protecting biological resources, such as marine habitats.

4.4.4 Environmental Impact Analysis and Mitigation

Proposed Project activities that may affect marine biological resources under Phase 1 include waste transportation, Discharge Structure removal and restoration, and water management. Under Phase 2, Proposed Project activities that may affect marine biological resources include Intake Structure closure and continuation of Discharge Structure removal and restoration activities (see Table 2-1, Decommissioning Project Activities Summary).

The removal and restoration of the Discharge Structure requires the construction of a cofferdam within Diablo Cove to isolate the work area from the ocean and allow for dewatering of the work area to accomplish the demolition work under dry conditions. Following demolition, restoration activities would occur. Restoration activities are anticipated to last for 14 months. Actions that may affect marine biological resources include increased vessel activity, which may result in fuel or oil spills, ship strikes, or behavioral avoidance by sensitive species; direct impacts to sensitive rocky habitat that may support kelp or other sensitive species from cofferdam construction and removal; and changes in water quality as a result of increased turbidity associated with vessel activity, cofferdam construction and removal, and dewatering.

DCPP currently utilizes a once-through cooling (OTC) water system to cool plant components. Total OTC flow during routine full power operations is 1,772,000 gallons per minute (gpm), equivalent to 2.55 billion gallons of seawater circulated per day. Once both DCPP reactor units are shutdown, the amount of OTC water flow will substantially decrease; however, ocean water would still be needed to support existing and new functions during the remainder of the decommissioning process, such as freshwater production via the seawater reverse osmosis (SWRO) facility, sanitary wastewater, dilution of waste streams, dust control, and watering for site restoration. Changes in the flow and discharges may alter the mixing characteristics of the various discharge constituents, which may affect marine biological resources.

Intake Structure closure would occur during Phase 2 of the Proposed Project and would entail sealing the structure with concrete bulkheads comprised of ECOncrete (textured on the outside face) to enhance the biological productivity of the concrete surface. The bulkheads would be installed prior to filling of the Intake Structure.

Post-decommissioning activities may include Marina improvements and reuse of the Marina by a third party (under separate County land use and Building permits) for recreational, educational, or commercial purposes. These activities may affect marine biological resources. While no in-water construction or dock improvements are proposed, boats may seek to anchor in the Marina.

Each activity could affect water column habitat, benthic habitats (intertidal and subtidal), eelgrass, kelp, plankton (phytoplankton, zooplankton, and larvae of marine organisms), and larger species, including invertebrates, fish, marine mammals, birds, and sea turtles. The introduction

or spread of invasive and non-native aquatic species (NAS) is also an area of concern. Potential impacts to marine biological resources associated with each of these Project activities are discussed below. The impact analysis briefly summarizes the activity, addresses both direct and indirect impacts to marine biological resources from each activity, and provides a description of the nature and magnitude of the impact and its level of significance. If applicable, mitigation measures are provided. Impacts to marine habitat(s) including habitat of state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat are discussed under Impact MBIO-1, while impacts to special-status species are discussed under Impact MBIO-2. In-water noise impacts are discussed under Impact MBIO-3, and impacts to water column marine habitat (i.e., receiving waters) including potential runoff from storm water or other Project-related discharges such as increased turbidity or increased vessel traffic that may result in oil or fuel spills are discussed under Impact MBIO-4. Potential impacts regarding the introduction of NAS are discussed under Impact MBIO-5.

Impact MBIO-1: Destroy or degrade marine habitat(s) during decontamination and dismantlement activities including habitat of state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat, which would also conflict with local policies or ordinances protecting biological resources, such as marine habitats (Class I: Significant and Unavoidable).

Phase 1

DCPP Project Site

Waste Transportation Activity

Waste transportation includes transporting waste from the DCPP site using ocean-going tugs and barges. A pair of barges would be used, with one barge moored to the Intake Structure and the other in a dedicated anchorage within the Intake Cove. Once both barges are loaded, a tugboat would transport the waste to either Portland or Boardman, Oregon for offloading. It was estimated that a total of 28 loading cycles (55 barges) would be needed over a three-year period (2030 to 2033). Actions associated with this activity that may affect marine biological resources include: increased vessel activity, which may result in fuel or oil spills, ship strikes, or behavioral avoidance by sensitive species; changes in water quality within the Intake Cove, as a result of increased turbidity associated with vessel activity; and potential impacts to sensitive rocky habitat that may support kelp, or soft-bottom habitat that may support eelgrass associated with vessel operations and storage.

The increase in vessel traffic, primarily tugboats used for moving and transporting barges within the Intake Cove increases the possibility of resuspending sediments from propeller wash. Given the relatively shallow water within the Intake Cove and the high percentage of soft bottom habitat (see Figure 4.4-3 and Table 4.4-1), the use of tugboats to maneuver barges could result in a localized increase in turbidity within the Intake Cove that could result in reducing primary production for marine flora such as algae, kelp, and eelgrass, and possibly smothering sensitive rocky habitats. Given the anticipated frequency of barges trips (estimated to be 27 loading cycles over three years, with each operation lasting approximately four days), it is anticipated that any turbidity would be short-term and temporary, and given the tidal exchange within the Intake

Cove, any turbidity that was generated would not persist for an extended period of time. However, any impact to sensitive rocky habitat and eelgrass beds is considered significant and would be reduced to a less-than-significant level (Class II) through implementation of MM MBIO-1 (*Eelgrass Monitoring Plan*). MM MBIO-1 would require surveys conducted in conformance with the CEMP which would delineate eelgrass beds in the Intake Cove, and while not specified in the CEMP, surveys would also delineate rocky habitat. Once habitats were identified actions could be taken to avoid impacts to these sensitive habitats.

Canopy kelp (approximately 6.85 acres) persists along the perimeter of the Intake Cove, and several eelgrass beds were identified (approximately 0.21 acres) in the Intake Cove (Table 4.4-5 and Figure 4.4-4). As proposed, two empty barges would be temporarily moored offshore in Avila Bay/Port San Luis. During the loading of waste containers, one barge would be moved to the face of the Intake Structure by a tugboat and secured for loading, while the other barge would remain moored in Avila Bay/Port San Luis. Once loaded, the first barge would be transferred to the anchorage area within the Marina with anchor lines attached to the Breakwater and shoreline (see Figure 2-34), while the remaining empty barge would be moved to the Intake Structure for loading. No subtidal mooring or anchors would be used, and when not in use, the mooring lines would be stored on shore or on the Breakwater. When being used, mooring lines would have attached floats to avoid dragging the lines on the sea floor. The loading process was estimated to take approximately four (4) days, and once both barges are filled, they would be tied together, and the tugboat would transport them to the out-of-state waste disposal facility.

While barges and tugboats would not use subtidal moorings or anchors, which would eliminate potential direct impacts to sensitive rocky, kelp bed, or eelgrass habitat, the storage of tugs and barges may result in shading impacts within the Intake Cove that could potentially affect kelp or eelgrass beds reducing the quality or quantity of these habitats. Both canopy kelp and eelgrass are perennial species with an active growing season that extends from the spring through the fall and are designated Essential Fish Habitat (EFH) Habitat of Particular Concern (HAPC). Due to the short-term nature of the activity, no shading impacts would be expected for kelp since kelp plants can have large surface canopies and are less susceptible to shading impacts than seagrasses or other types of submerged marine vegetation. However, eelgrass beds may be affected by barge shading and any impact would be considered significant. Implementation of MM MBIO-1 (*Eelgrass Monitoring Plan*) and MM MBIO-2 (*Marine Safety and Anchoring Plan*) would reduce the potential for impacts to eelgrass to a less-than-significant level (Class II). PG&E developed a preliminary Discharge Demolition Anchoring Plan (PG&E, 2022b) for decommissioning activities associated with the demolition and removal of the Discharge Structure and restoration activities, which includes information regarding operational limits, mooring systems, and conceptual mooring locations. An Intake Structure and Barge Loading Plan (PG&E, 2021d) was also developed, which includes information on options for loading barges from the Intake Structure, but the plan does not include specifics for mooring in the Intake Cove. MM MBIO-2 (*Marine Safety and Anchoring Plan*) would require preparation of a Marine Safety and Anchoring Plan to include a pre-construction seafloor habitat mapping survey to delineate eelgrass beds and to develop an anchoring system that would avoid impacts to eelgrass from Project-related actions. Any mooring or anchoring within Port San Luis would be coordinated by the Port San Luis Harbor District, occurring only in authorized mooring and anchorage areas to avoid any impacts to sensitive rocky, kelp bed, or eelgrass habitat.

Discharge Structure Removal and Restoration Activity

Intertidal and subtidal habitats around the Discharge Structure would be directly impacted during cofferdam installation/removal, dewatering, and Discharge Structure removal, and would result in the temporary loss of benthic habitat and mortality to all sessile species, species with limited mobility, and species trapped within the cofferdam area for the duration of the activity which is estimated to be 14 months.

The intertidal and shallow subtidal habitat immediately upcoast of the Discharge Structure where the cofferdam would join the shoreline consists of cobble, boulder, and rock fields overlying bedrock interspersed with sandy pockets. The area is heavily impacted by its proximity to the warm-water discharge, which generates thermal stresses that exceed most organisms' capacity to survive. It also produces consistent and strong offshore currents that restrict propagules such as algal spores and invertebrate larvae from reaching this location. This habitat supports relatively low-quality intertidal and subtidal communities that consist primarily of diatom film, fast-growing algae such as the green alga *Ulva* spp. and some red algae (PG&E, 2021a).

Immediately downcoast of the Discharge Structure where the cofferdam would join the shoreline, the intertidal and shallow subtidal habitat consists of emergent bedrock that forms a rocky bench typical of high-quality habitat found elsewhere along the coastline and includes mussel beds and intertidal algal assemblages. This habitat also represents black abalone critical habitat, although no black abalone were observed in this area during recent surveys (PG&E, 2021a). It is also an area that includes crustose coralline algae, an important resource for juvenile abalone, and is likely to accumulate drift kelp, an important food for adult abalone.

Table 4.4-11 summarizes the habitat types that would be affected within the various Project footprints (i.e., cofferdam footprint, dewatered area, anchorage area, and restoration area). Approximately 0.58 acres of intertidal and subtidal marine habitat would be directly impacted from cofferdam construction (this includes a 25-foot buffer on the offshore edge), with the majority consisting of scoured bedrock (0.46 acres) and approximately 0.12 acres of mixed sand and rocky habitat (see Figure 4.4-5). The dewatered area consists of approximately 0.12 acres of scoured bedrock and mixed sand and rocky habitat (see Table 4.4-11). Therefore, cofferdam construction would directly impact approximately 0.70 acres (0.58+0.12) of both water column and benthic marine habitat, some of which would be considered EFH HAPC (rocky reef and surfgrass), as well as approximately 0.47 acres of black abalone critical habitat. Following removal of the Discharge Structure, approximately 0.13 acres of 1-ton quarry rock would be placed within and on both sides of the void to provide bluff erosion protection, as well as new intertidal and subtidal habitat (see Figure 2-31). These impacts would be temporary in nature lasting approximately 14 months, but the direct impact to marine habitat (EFH and black abalone critical habitat) associated with the cofferdam and Discharge Structure removal, as well as loss of marine organisms would be considered significant. Implementation of MM MBIO-3 (*Water Quality Monitoring Plan*), MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*), MM MBIO-5 (*Preconstruction Survey for Black Abalone*), and MM MBIO-6 (*Marine Habitat Restoration and Monitoring Plan*) would reduce the impacts to marine habitats; however, because of the uncertainty associated with the success of relocation of black abalone (MMs MBIO-4 and MBIO-5), impacts would remain significant and unavoidable (Class I). Note that after the Discharge

Structure ceases operation, the cofferdam removed, and the area restored, the area would provide improved quality critical habitat for black abalone and other marine organisms.

PG&E developed a Turbidity Monitoring Plan for decommissioning activities associated with the demolition and removal of the Discharge Structure and restoration activities, including placement and removal of the cofferdam (PG&E, 2022c). The Turbidity Monitoring Plan calls for receiving water turbidity monitoring to ensure turbidity levels are acceptable based on permit requirements. MM MBIO-3 (*Water Quality Monitoring Plan*) requires PG&E to update the Turbidity Monitoring Plan to include permit requirements for monitoring for turbidity and other water quality parameters such as dissolved oxygen to ensure that Project-related activities are not contributing to conditions that could degrade sensitive marine habitats. If water quality monitoring detected persistent and elevated levels of turbidity, Best Management Practices (BMPs) would be implemented to avoid turbidity impacts to receiving waters and adjacent habitats. MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*) requires PG&E to develop a plan to avoid impacts to marine biological resources, receiving waters, sensitive habitats, and potentially protected species from all aspects associated with cofferdam construction and removal. The plan would require tasks such as a pre-construction habitat and biological survey, an approach to relocate marine life, agency authorization and permitting, and dewatering controls to minimize turbidity, and inspection schedule to ensure compliance. MM MBIO-5 (*Preconstruction Survey for Black Abalone*) requires PG&E to conduct a pre-construction survey for black abalone, and if black abalone are discovered, an approach to relocate them to predetermined areas located outside the immediate impact area. MM MBIO-6 (*Marine Habitat Restoration and Monitoring Plan*) requires updating the Marine Habitat Restoration and Monitoring Plan (PG&E, 2020a) to include specific methods, procedures, goals, and performance standards for the restoration effort.

Impacts may also occur to approximately 4.16 acres of leatherback turtle critical habitat due to the inadvertent release of hazardous materials such as fuel or oil from construction equipment and support vessels (Table 4.4-11). However, implementation of MM MBIO-7 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan*) and MM MBIO-8 (*Oil Spill Response Plan*) would reduce the impacts to leatherback turtle critical habitat to a less-than-significant level (Class II). MM MBIO-7 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan*) requires updating PG&E's Marine Wildlife Contingency Plan (PG&E, 2020b) to ensure that no harassment of marine mammals or other marine life occurs during offshore Project activities and would require a description of the work activities; a risk analysis; qualifications, number, location, and roles/ authority of marine wildlife observers (MWOs); exclusion zones; and monitoring and reporting requirements. MM MBIO-8 (*Oil Spill Response Plan*) requires updating PG&E's Oil Spill Response Plan (PG&E, 2022e) to include at a minimum, a description of the Project scope-of-work and geographic area, pre-work planning needed to prepare for a possible nearshore oil spill, initial response procedures including agency notifications and on-site team communications, how waste from an oil spill would be handled and disposed of, and a description of how the area would be decontaminated and how any contaminated materials handled.

Another direct impact associated with the Discharge Structure removal activities includes potential degradation of marine habitat due to anchoring of vessels and barges in Diablo Cove. The proposed anchorage area consists of approximately 3.57 acres of mixed sand and rock

habitat, while the barge footprint consists of approximately 0.39 acres of scoured bedrock with mixed sand and rock (see Table 4.4-11 and Figure 4.4-5). Spuds, anchors, and chain used to moor vessels and barges may damage or degrade rocky reef habitat and canopy kelp (both EFH HAPC), including approximately 4.23 acres of black abalone critical habitat (see Table 4.4-11). These impacts would be considered significant; however, implementation of MM MBIO-2 (*Marine Safety and Anchoring Plan*) would reduce the impacts to a less-than-significant level (Class II). PG&E has developed a Discharge Demolition Anchoring Plan (PG&E, 2022b) and an Intake Structure Closure and Barge Loading Plan (PG&E, 2021d); however, MM MBIO-2 (*Marine Safety and Anchoring Plan*) requires preparation of a Marine Safety and Anchoring Plan to include a pre-construction seafloor habitat mapping survey to delineate EFH HAPC (i.e., rocky reef and canopy kelp) and to develop an anchoring system that would avoid impacts from Project-related actions.

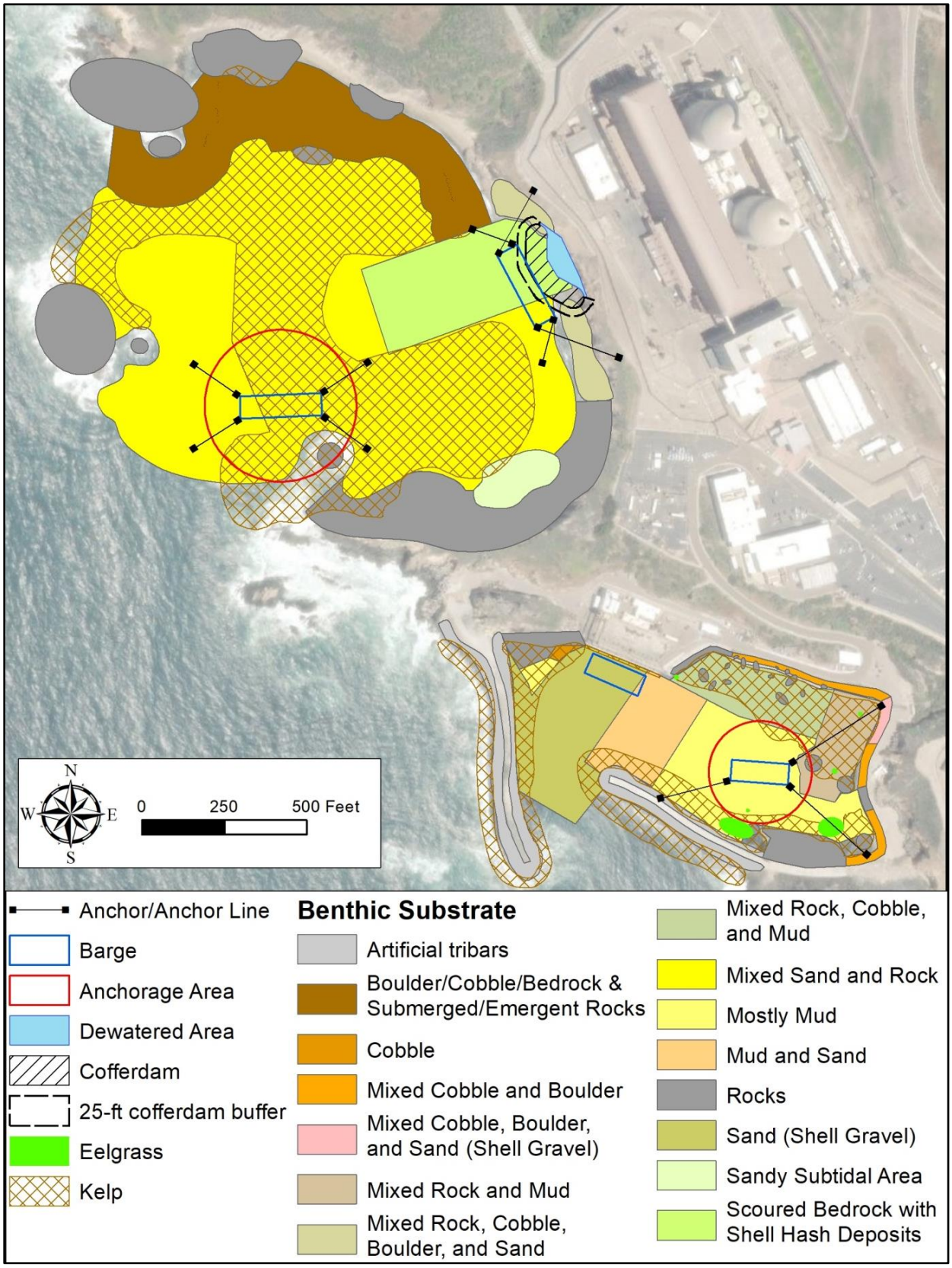
Shading impacts were discussed in the *Waste Transportation Activity* (discussed above), and while the Diablo Cove anchorage supports approximately 2.99 acres of canopy kelp (see Table 4.4-10 and Figure 4.4-4), no shading impacts would be expected since kelp plants can have large surface canopies and are less susceptible to shading impacts than seagrasses or other types of submerged marine vegetation. Therefore, no impacts to canopy kelp HAPC are expected due to barge or vessel anchoring in Diablo Cove. Eelgrass is not present in Diablo Cove.

Table 4.4-11. Diablo Cove Habitat Impact Summary

Location	Area	Habitat Type	Area (m^2)	Acres
Diablo Cove	Coffer Dam w/ 25' Buffer	Mixed Rock, Cobble, Boulder, and Sand	387	0.10
		Mixed Sand and Rock	86	0.02
		Scoured Bedrock with Shell Hash Deposits	1,869	0.46
		Total	**2,342**	**0.58**
	Dewatered Area	Mixed Rock, Cobble, Boulder, and Sand	60	0.01
		Scoured Bedrock with Shell Hash Deposits	461	0.11
		Total	**521**	**0.12**
	Coffer Dam w/ 25' Buffer and Dewatered Area	Black Abalone Critical Habitat	1,883	0.47
	Barge and Anchorage Area		17,120	4.23
	Barge Footprint	Mixed Sand and Rock	439	0.11
		Scoured Bedrock with Shell Hash Deposits	1,115	0.28
		Total	**1,553**	**0.39**
	Anchorage Area and Anchor Footprints	Mixed Sand and Rock	14,116	3.49
		Rocks	333	0.08
		Total	**14,449**	**3.57**
	Anchorage Area	Kelp	12,118	2.99
	Barge and Anchorage Area	Leatherback Turtle Critical Habitat	16,843	4.16
	Discharge Structure Restoration Area	Quarry Rock Fill*	509	0.13

*Fill will create new rocky habitat.

Figure 4.4-5. Marine Habitat Impact Map in the Project Areas



Source: PG&E, 2021b.

Water Management Activity

Brine and wastewater discharges associated with current operation of the SWRO and Wastewater Treatment facilities are currently diluted and discharged through the OTC flows from the Discharge Structure (see Figure 2-35). As OTC flows decrease during decommissioning (i.e., Phase 1), salinity levels near the discharge area could increase and result in reduced dissolved oxygen concentrations, potentially resulting in areas of hypoxia that could impact receiving waters and adjacent marine habitats.

A modeling study evaluated the potential impacts from brine and wastewater discharges associated with the decommissioning activity using multiple scenarios, including two ambient temperature simulation time periods under six (6) different combinations of cooling water discharge rates for a total of twelve (12) modeling scenarios. The six conditions included full operations, interim steps in cooling water flow reductions (75%, 50%, 25%), total pump shutdown (22,000 gallons gpm), and the minimum cooling water flow rate required to meet the requirements (7,000 gpm) while the desalination plant operated at capacity (PG&E, 2021e). All scenarios consistently predicted a larger plume at the surface layer than at the bottom layer attributed to the heated and buoyant behavior of the discharge, and that as discharge flow rates decreased, dilution also decreased. However, the model suggested that no adverse effects from brine discharges would be expected even under the lowest discharge volume of 7,000 gpm, as the discharge of excess brine from the desalinization facility would be expected to increase background salinity by less than 0.5 parts per thousand (ppt) at the point of discharge in the Diablo Cove, and was further diluted with distance from the outfall, quickly dropping to background levels (PG&E, 2021e). This 0.5 ppt difference is within normal fluctuations in seawater salinity and has been observed during receiving water monitoring at DCPP (PG&E, 2021a). When the cofferdam is in place, a temporary 8- to 10-inch diameter PVC pipe would be installed over or adjacent to the cofferdam (see Figure 2-36), and a diffuser would be installed on the end, further increasing dilution within Diablo Cove. Specific wastewater contaminants were not considered in the modeling study; however, the relative dilution results can be applied to other constituents of concern (PG&E, 2021e).

Based on results of this study, reduced OTC flows are not expected to result in salinity concentrations from the brine stream or wastewater that would negatively affect the receiving environment or exceed California Ocean Plan numeric standards (PG&E, 2021e). The primary discharge (Discharge Point 001) is regulated under the National Pollutant Discharge Elimination System (NPDES) program (Permit CA0003751) by the Central Coast RWQCB, and the permit has published effluent limitations and is routinely monitored and reported by PG&E. Based on recent discharge monitoring reports, it would not be expected that ancillary discharges occurring through Discharge Point 001 would be found in concentrations that would violate the permit condition (PG&E, 2021e). Therefore, impacts from brine and wastewater discharge during decreased OTC flows would be less than significant (Class III).

Another direct effect of flow reduction during the period of reduced OTC would be the change in circulation patterns within the Intake Cove. This change in circulation is not expected to affect the presence of any rocky reef habitat within the Intake Cove, and the ability to serve as substrate and support sessile organisms such as algae or invertebrates. The reduced flow may result in competitive interactions and changes in community composition to species that are more

tolerant to lower flow conditions but overall, the rocky reef community within the Intake Cove is not expected to change dramatically as differences in community structure on the Breakwaters have already been documented (PG&E, 2021a). For example, the number of intertidal algal species was higher on the East Breakwater than on the West Breakwater; however, the West Breakwater had higher percent cover, which may have been a result of higher water motion due to exposure to the open ocean (PG&E, 2021a). For invertebrates, the limpets *Lottia. scutum, L. limatula*, and *Fissurella volcano* were more frequently observed on the West Breakwater than the East Breakwater, while on the East Breakwater, the tube snails *Serpulorbis squamigenus* and *Spirobranchus spinosus* and the chiton *Mopalia muscisa* were generally more frequently observed (PG&E, 2021a). Similar observations were recorded in the subtidal habitat with kelps such as *Laminaria setchellii* and bull kelp (*Nereocystis leutkeana*), which were more commonly observed on the more exposed West Breakwater than giant kelp (*Macrocystis pyrifera*) and were observed in calmer conditions on the inner side of the East Breakwater (PG&E, 2021a).

In addition, the reduced intake flows are not expected to result in other indirect effects such as changes in nutrient levels or increased turbidity within the Intake Cove. The cove would continue to be partially exposed to the open ocean, diurnal tidal cycles, and storm activity, and it would be expected that nutrient concentrations, turbidity levels, and other water quality parameters such as dissolved oxygen, temperature, salinity, and hydrogen ion concentration (pH) inside the cove would be similar to ambient conditions outside the cove. Therefore, impacts to marine habitats from decreased flows within the Intake Cove during decreased OTC flows would be less than significant (Class III), and as discussed below, would actually result in a net benefit (when considering both the Intake and Diablo Coves).

During full power operations approximately 2.55 billion gallons of seawater is circulated through DCPP per day, and a direct benefit associated with the proposed reduced flows is the reduction and eventual elimination of heated seawater into Diablo Cove, which in turn would eliminate any thermal stress on marine organisms, as well as the highly disturbed and scoured area within Diablo Cove. In addition, the flow reduction would proportionately reduce entrainment of fish and invertebrates that occurs during normal operations. PG&E (2016) provides results from entrainment sampling of marine plankton at the DCPP and calculates an estimate of the mortality due to entrainment on the populations of larvae in the source water; mortality that would eventually be eliminated with cessation of the OTC flows.

Phase 2

Discharge Structure Removal and Restoration Activity

Discharge Structure removal and restoration activities are anticipated to extend into Phase 2 and conclude in 2033. Impacts associated with this activity are discussed under Phase 1 and are expected to be similar in Phase 2 and would be mitigated to the extent feasible through implementation of MM MBIO-5 (*Preconstruction Survey for Black Abalone*) and MM MBIO-7 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan*). However, because of the uncertainty associated with the success of relocation of black abalone (MM MBIO-5), impacts would remain significant and unavoidable (Class I).

Intake Structure Closure Activity

Intake Structure closure would entail sealing the structure with precast concrete bulkheads that would be installed on the existing structure and backfilling the void with controlled low strength material (CLSM). Construction is anticipated to occur from on top of the Intake Structure with no in-water equipment. Direct impacts to benthic habitat would occur at the base of the Intake Structure where the bulkhead would rest on or penetrate the seafloor. The estimated impact footprint (assuming bulkhead is 1 foot thick, 220 feet long, and 36 feet high) would be approximately 220 square feet (21 square meters), and the substrate in the vicinity of the Intake Structure consists of mixed cobble, boulder, and sand (see Figure 4.4-3). All sessile invertebrates within the impact footprint would be lost. No special-status species are anticipated to occur in the area, and since this area does not support EFH HAPC (rocky reef, kelp, seagrass), impacts to marine habitat from the Intake Structure Closure Activity would be less than significant (Class III).

Intake Structure closure also would result in shutting down the SWRO, and on-site water needs for decommissioning would be met via groundwater extraction and/or trucked in water. This means the full cessation of intake flows, which could indirectly affect circulation patterns in the Intake Cove. The cove would still continue to be exposed to the open ocean, diurnal tidal cycles, and storm activity, and it is expected that nutrient concentrations, turbidity levels, and other water quality parameters inside the cove would be similar to ambient conditions outside the cove. As noted above, this change in circulation is not expected to affect the presence of any rocky reef habitat within the Intake Cove, and the ability to serve as substrate and support sessile organisms such as algae or invertebrates. The change in flow may result in competitive interactions and changes in community composition to species that are more tolerant to lower flow conditions, but overall, the rocky reef community within the Intake Cove is not expected to change dramatically as differences in community structure on the Breakwaters have already been documented. No impacts are anticipated to eelgrass beds due to cessation of flows, as most beds are located at the eastern end of the Intake Cove. Therefore, impacts to the cessation of flows within the Intake Cove would be less than significant (Class III).

A benefit of Intake Structure Closure is the creation of habitat since the bulkhead would be textured on the outside face (ECOncrete) to enhance the biological productivity of the concrete surface. Approximately 7,920 square feet (736 square meters) of artificial vertical marine habitat would be created from the Intake Structure Closure Activity using the estimated dimensions of the bulkhead resulting in a beneficial impact (Class IV). If necessary, bulkhead installation and habitat enhancement would be coordinated with CDFW.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Since no in-water operations are anticipated, no impacts to benthic marine habitats or EFH HAPC would occur.

Future Actions. Marina improvements include paving of the Intake Structure, installation of a boat hoist, and construction of ancillary structures such as maintenance buildings and restrooms. All construction is anticipated to occur on top of the Intake Structure or upland with no in-water

construction. Since there is no in-water construction element (e.g., dock improvements), impacts to benthic marine habitats or EFH HAPC would be less than significant.

However, a potential impact to marine biological resources would be from operational activities associated with vessel anchoring. It is anticipated that vessel tie-up at the dock would be limited in duration with no overnight tie-up, and therefore, vessels staying overnight would have to anchor in the Marina. While anchors falling on unvegetated soft bottom habitat may result in mortality to benthic epifauna and infauna, given the small footprint and opportunistic nature of the organisms, impacts would be less than significant. However, anchors repeatedly falling on rocky reef habitat or eelgrass habitat (i.e., EFH HAPC) could result in long-term impacts or damage and would be considered significant. MM MBIO-9 (*Mooring Placement Habitat Survey*) would reduce the potential for impacts to rocky reef and eelgrass habitat to a less than significant level (Class II). MM MBIO-9 (*Mooring Placement Habitat Survey*) prohibits all non-emergency anchoring and that up to five mooring buoys be installed in the Marina prior to commencing overnight use by private vessels. It also requires a pre-construction habitat survey be conducted prior to mooring installation to delineate sensitive habitats such as eelgrass beds and rocky reefs. Moorings would be installed and include a buffer zone to avoid impacts to these habitats from the mooring anchor, as well as potential chain scour.

Mitigation Measures for Impact MBIO-1.

MBIO-1 **Eelgrass Monitoring Plan.** During Phase 1 and at least 90 days prior to submittal of construction permits related to any in-water construction activity within the Intake Cove, the Applicant or its designee shall prepare an Eelgrass Monitoring Plan to provide protection to eelgrass beds that are present in the Intake Cove. The plan shall be consistent with the California Eelgrass Mitigation Policy (CEMP) that includes specific guidelines for monitoring, as well as appropriate responses and measures for activities that threaten eelgrass vegetated habitats (NOAA, 2014). The goal of CEMP is to have no loss and to accomplish greater eelgrass habitat than is lost (NOAA, 2014). Any loss will be compensated at a minimum ratio of 1.2:1 consistent with CEMP guidelines. The Monitoring Plan shall be submitted to County Planning and Building and reviewed and approved by the County, National Oceanic and Atmospheric Administration (NOAA) Fisheries, and California Department of Fish and Wildlife (CDFW) prior to issuance of construction permits for any in-water construction activity within the Intake Cove.

In accordance with the requirements of the CEMP and as identified in Appendix J Marine Biological Resources Assessment of PG&E's application (PG&E, 2021a), both pre- and post-construction surveys shall be described in the Eelgrass Monitoring Plan and implemented according to the approved plan. The pre-construction eelgrass survey shall be completed within 60 days prior to initiation of construction activities at the project and reference sites. This survey shall confirm both area and density characterization of the eelgrass beds. Based on the pre-construction survey, existing eelgrass beds shall be protected from equipment such as vessel operations, barge anchoring and mooring, or increased turbidity; protective measures shall be identified in the plan and implemented. A post-construction survey shall be performed within 30 days following project completion to quantify eelgrass at both the project and

reference sites. A comparison of pre- and post-construction survey results shall be documented and submitted to the County within 15 days following completion of surveys.

MBIO-2 **Marine Safety and Anchoring Plan.** During Phase 1 and prior to submittal of any permits related to any in-water construction activity in the Intake Cove and Diablo Cove, the applicant or its designee shall prepare a Marine Construction Activity Plan, comprised of updates to the Discharge Demolition Anchoring Plan (PG&E, 2022b) and the Intake Structure and Barge Loading Plan (PG&E, 2021d) and supplemented with a Marine Safety and Anchoring Plan to avoid or minimize, as feasible, impacts to Essential Fish Habitat (EFH) Habitat of Particular Concern (HAPC) such as rocky reef habitat, canopy kelp, or eelgrass beds. The Marine Safety and Anchoring Plan component would be developed following the analysis of a pre-construction seafloor habitat and bathymetric survey performed after the Discharge Structure flow ceases. Additionally, a confirmation or ground truthing survey shall be conducted to ensure that all pre-determined anchor locations are positioned in sedimentary habitats and avoid impacts to rocky substrata, kelp, or eelgrass beds. The Marine Safety and Anchoring Plan shall also include the types and sizes of vessels to be anchored, anchoring and mooring systems that may be utilized, and general anchoring procedures. The Marine Construction Activity Plan composed of the three elements noted above shall be submitted to County Planning & Building, California State Land Commission (CSLC), California Coastal Commission (CCC), CDFW, and NOAA Fisheries for review prior to the commencement of Project activities and shall be approved prior to County issuance of any marine-related construction permits for implementation. The Marine Construction Activity Plan shall be incorporated into any permits related to barge loading, Discharge Structure demolition, and Intake closure. Documentation of the mooring system installation shall be submitted to the County within 30 days of installation to document compliance with this measure.

MBIO-3 **Water Quality Monitoring Plan.** During Phase 1 and prior to issuance of any permits related to any in-water construction activity in the Intake Cove and Diablo Coves, the Applicant or its designee shall update the Turbidity Monitoring Plan (PG&E, 2022c) to provide protection to receiving waters, adjacent sensitive habitats, and protected species primarily from turbidity during activities associated with any in-water construction activities and shall comply with any Clean Water Act (CWA) permit requirements. The plan shall provide specific information about the equipment, reporting procedures, and methodology to measure and record water quality parameters such as turbidity and dissolved oxygen during Project activities, exceedance criteria, and protocols that could be implemented to avoid impacts to water quality in accordance with standards set in the Ocean Plan (SWRCB, 2019). The plan shall be submitted to the County, Regional Water Quality Control Board (RWQCB), CSLC, CCC, NOAA Fisheries, and CDFW for review and approval prior to the issuance of County/agency permits for in-water construction or commencement of Project activities in marine waters, and implemented throughout construction. The Plan shall include a reporting schedule to report results of water quality monitoring during construction. A Final Compliance Summary report shall be prepared at completion of

construction and shall be submitted to the County and RWQCB within 30 days following completion of the work subject to surveys.

MBIO-4 **Cofferdam Installation and Dewatering Plan.** During Phase 1 and at least 90 days prior to, or concurrent with, submittal of initial construction permits related to Discharge Structure demolition or cofferdam installation, the Applicant or its designee shall develop a Cofferdam Installation and Dewatering Plan to avoid impacts to marine biological resources, receiving waters, sensitive habitats, and potentially protected species from all aspects associated with cofferdam construction and removal. Lesson-learned from previous installations have been identified and summarized in PG&E's Preliminary Discharge Structure Demolition Plan – 30% Design Level (PG&E, 2022d). The plan, at a minimum shall include an organizational chart, a pre-construction habitat and biological survey, an approach to relocate/salvage marine life, tracking and management of agency authorization and permitting, dewatering controls to minimize turbidity, water quality monitoring that shall comply with any CWA permit requirements, and inspection schedule to ensure compliance. The plan shall be submitted to the County, CSLC, CCC, CDFW, and NOAA Fisheries for review and approval prior to issuance of any permits for the commencement of Project activities related to decommissioning the Discharge Structure. Plan measures and requirements shall be included in the construction permits. Relocation of black abalone would require a biologist with a scientific collection permit, and obtaining a Project incidental take permit and letter of authorization from CDFW. Results of the pre-construction habitat and biological survey, animal relocation efforts, and water quality monitoring shall be submitted to the County, NOAA Fisheries, and CDFW within 30 days following completion of surveys. Within 60 days following completion of the Discharge Structure removal and restoration and cofferdam removal, a final summary report on the dewatering and cofferdam plan shall be prepared and submitted to the County and agencies.

MBIO-5 **Preconstruction Survey for Black Abalone.** During Phase 1 and prior to installation of the cofferdam, dewatering, cofferdam removal, or any other construction activity that may affect black abalone, the Applicant or its designee shall conduct a survey by a qualified biologist (i.e., certified/approved by NOAA Fisheries and CDFW) within the area of impact to determine if black abalone are present. This pre-construction survey requirement shall be included in every County (or other agency) construction permit affecting Diablo Cove marine waters. If black abalone are discovered in the work area, they shall be relocated by a qualified biologist with appropriate authorization from NOAA Fisheries and CDFW to predetermined suitable habitat areas located outside the immediate impact area. Relocation of black abalone would require a biologist with a scientific collection permit, and obtaining a project incidental take permit and letter of authorization from CDFW. Monitoring shall also be conducted to assess the effectiveness of relocation for a duration as prescribed by NOAA Fisheries, and CDFW. Results of each such survey and relocation monitoring event shall be submitted to the County, NOAA Fisheries, and CDFW within 30 days following completion of surveys, and a final summary report submitted within 60 days following completion of construction activity.

MBIO-6 **Marine Habitat Restoration and Monitoring Plan.** During Phase 1 and prior to submittal of County applications for permits related to Discharge Structure Removal and Restoration, the Applicant or its designee shall update the Marine Habitat Restoration and Monitoring Plan to outline the restoration and subsequent monitoring specifically associated with the restoration of the Discharge Structure. This does not include monitoring for other aspects of the Project such as anchoring, cofferdam installation and dewatering, or black abalone monitoring. The plan shall provide specific methods, procedures, goals, and performance standards, and is expected to be an extension of the current marine monitoring program (see PG&E, 2021a). A Marine Habitat Restoration and Monitoring Plan was developed for the Project (PG&E, 2020a), but the plan requires updating to be consistent with the final restoration construction plans. The current plan's objectives are the removal and filling of foundations and voids and regrading to natural contour status; evaluation of existing biological resources and restoration of marine resources along the coastline of the property; and updating and/or development of various plans that apply to marine areas, including the Mitigation Monitoring Plan. The Marine Habitat Restoration and Monitoring Plan approach is based on several case studies of marine restoration projects and is built around a monitored natural attenuation approach. The implementation portion of the plan includes an initial hydrographic survey, pre-restoration biological survey, site restoration and habitat enhancements, post-restoration hydrographic surveys, and post-restoration biological surveys. Ongoing monitoring, including sampling and data analysis, is also included. Performance metrics for the restoration of marine habitat are based on the re-establishment of natural communities similar to those found in surrounding areas that have not been altered or affected by construction or operation of the power plant.

When the Marine Habitat Restoration and Monitoring Plan is updated, the plan shall be reviewed by various agencies including, at a minimum, the County, CSLC, CCC, CDFW, and NOAA Fisheries and shall be approved prior to issuance of any permits related to the Discharge Structure demolition and restoration activities. Monitoring and reporting requirements shall be followed, and a summary Final Compliance Report shall be submitted to the permit agency(ies) within 60 days of project completion.

MBIO-7 **Marine Mammal and Sea Turtle Mitigation and Monitoring Plan.** During Phase 1, prior to submittal of any County permits related to Discharge Structure removal and restoration, the Applicant or its designee shall develop a Marine Mammal and Sea Turtle Mitigation and Monitoring Plan to ensure that no harassment of marine mammals or other marine life occurs during both offshore and onshore Project activities. The approved Plan shall be updated and resubmitted at Phase 2 concurrent with submittal of County permits related to Intake Structure closure activities. A draft plan was developed for the Project (PG&E, 2020b), but a final plan shall be developed and approved by the County as part of NOAA Fisheries, CDFW, and USFWS consultation under the Marine Mammal Protection Act, and shall include:

- A description of the work activities including vessel size, activity types and locations, and proposed Project schedule.

- Incorporate results of noise impact assessment (PG&E, 2022a) on effects to marine mammals and sea turtles based on the most current activity plans.
- For nearshore activities, the qualifications, number, location, and roles/authority of dedicated marine wildlife observers (MWOs). MWO tasks may include:
  - Establishing an exclusion zone for eliminating risk of impacts to marine wildlife.
  - Keeping a daily monitoring log detailing the marine mammals or sea turtles observed during the day and Project activities undertaken during those observations.
  - Digital photographs taken during the monitoring.
  - Training of crew, recording survey data, and providing a final report on the results of the monitoring.
  - Instructing vessel operators to observe low vessel speeds within the Discharge and Intake Coves and always maintain awareness of marine wildlife.
- For offshore activities, the distance, speed, and direction transiting vessels shall maintain when in proximity to a marine mammal or turtle, as follows:
  - Vessel operators shall make every effort to maintain a distance of at least 300 feet from sighted whales, and 150 feet or greater from sea turtles or smaller cetaceans whenever possible.
  - When small cetaceans are sighted while a vessel is underway (e.g., bow-riding), vessel operators shall attempt to remain parallel to the animal's course. When paralleling whales, vessels shall operate at a constant speed that is not faster than the whales' and shall avoid excessive speed or abrupt changes in direction until the cetacean has left the area.
  - When safety permits, vessel speeds shall not exceed 11.5 miles per hour (10 knots) when mother/calf pairs, groups, or large assemblages of cetaceans (greater than five individuals) are observed near an underway vessel. A single cetacean at the surface may indicate the presence of submerged animals in the vicinity; therefore, prudent precautionary measures, such as decreasing speed and avoiding sudden changes in direction, should be exercised. The vessel shall route around the animals, maintaining a minimum distance of 300 feet.
  - Support vessels (i.e., barge tows) shall not cross directly in front of migrating whales, other threatened or endangered marine mammals, or sea turtles.
  - Vessels shall not separate female whales from their calves or herd or drive whales. If a whale engages in evasive or defensive action, support vessels shall drop back until the animal moves out of the area.
- For pile driving activities, measures shall be incorporated to reduce underwater noise and minimize potential impacts to fish, sea turtles, and marine mammals. The following noise reduction measures include:
  - Vibratory pile driving shall be used to the extent practicable.

  - During construction activities involving pile driving or extraction, the contractor, under direction of a qualified biologist (i.e., certified/approved by NOAA Fisheries or CDFW), shall conduct monitoring within the applicable Zone of Influence (ZOI). The contractor shall halt in water pile driving or extraction work if any observations of marine mammals or sea turtles are made within the defined ZOI. Work shall not re-commence until it has been determined that the mammal(s) or turtle(s) have left the area or have not been seen on the surface within the ZOI for a period of 15 minutes.
  - A soft start or "ramp-up" procedure shall be utilized to provide nearby wildlife with an opportunity to respond by avoiding the sound source and vacating the area. When performing vibratory pile driving, the contractor shall commence work with a few short pulses followed by a 1-minute period of no activity, prior to commencing full activities. The purpose of this activity is to encourage turtles or marine mammals in the area to leave the project site prior to commencement of work. The contractor, under the direction of a qualified biologist, shall then commence monitoring as described above to determine if turtles or mammals are in the area. This process should be repeated if pile driving ceases for a period of greater than an hour.

- Observation recording procedures and reporting requirements in the event of an observed impact to marine wildlife. Collisions with marine wildlife shall be reported promptly to the NOAA Fisheries, CDFW, CCC, USFWS, and CSLC pursuant to each agency's reporting procedures.
- A final report summarizing daily reports and any actions taken shall be submitted to the County, NOAA Fisheries, CDFW, CCC, CSLC, and USFWS within 60 days following completion of monitoring.

MBIO-8 **Oil Spill Response Plan.** During Phase 1 and prior to submittal of permits for authorization of any in-water construction activities, the Applicant or its designee shall update the Oil Spill Response Plan to outline initial response and procedures to be followed in the event of an inadvertent release of hazardous materials such as fuel or oil as a result of Project activities. The plan shall include at a minimum, a description of the Project scope-of-work and geographic area; pre-work planning needed to prepare for a possible nearshore oil spill; initial response procedures including agency notifications and on-site team communications; how the waste from the oil spill will be handled and disposed of; and a description of how the area will be decontaminated and how any contaminated materials will be handled. The plan shall be reviewed and approved by various agencies including, at a minimum, the County, CSLC, CDFW, NOAA Fisheries, and the CDFW Office of Spill Prevention and Response (OSPR). (PG&E, 2022e)

Each Project vessel shall have a copy of the plan and shall maintain the required spill response equipment. Additional shore-based response equipment shall be onsite, which can be used for first-response containment and collection of petroleum that reaches the shoreline. If necessary, additional personnel and equipment shall be deployed to assist in the recovery and disposal of spilled petroleum.

MBIO-9 **Mooring Placement Habitat Survey.** Prior to Marina reuse, the Applicant or third-party lessee shall prohibit overnight anchoring except for emergency situations, and that up to five mooring buoys be installed in the Marina prior to commencing overnight use by private vessels (except vessels at dock). The Mooring Plan shall include the following:

1. Prior to mooring installation, a pre-construction habitat survey shall be conducted to delineate sensitive habitats such as eelgrass beds and rocky reefs.
2. Mooring locations would be identified and include a buffer zone to avoid impacts to these habitats from each mooring anchor, as well as potential chain scour.
3. Results of the pre-construction habitat survey and proposed mooring locations shall be submitted to the County and CCC, CSLC, and CDFW as required.
4. Upon County and agency approval, the construction permits would specify installation of the mooring buoys in the approved locations.
5. The County Development Plan/Coastal Development Permit approval will require that the Applicant or third-party operator provide the means and methods for managing and monitoring the number of vessels and length of stay.

Documentation of the mooring buoy installation shall be submitted to the County within 30 days of installation to document compliance with this measure. Mooring buoys shall be maintained and used as permitted over the course of Marina operations.

Residual Impacts. Due to the uncertainty associated with the success of relocation of black abalone (MMs MBIO-4 and MBIO-5), impacts associated with Discharge Structure removal and restoration activities in Phases 1 and 2 of the Proposed Project and the potential to destroy or degrade marine habitat(s) would remain significant and unavoidable (Class I).

Impact MBIO-2: Harm or disturb marine special-status invertebrate, fish, reptile, bird, or mammal (Class I: Significant and Unavoidable).

Phase 1

DCPP Project Site

Waste Transportation Activity

Waste transportation activities include transporting waste from the DCPP site using ocean-going tugboats and barges. Actions associated with this activity that may affect special-status species such as marine mammals, sea turtles, seabirds, and other marine life include increased vessel activity that may result in ship strikes, entanglement in anchor lines, behavioral avoidance, acoustic effects, or release of pollutants, or introduction of non-native aquatic species (NAS) by Project-related vessels (see Impact MBIO-5 for NAS analysis).

Marine mammals and sea turtles may be struck and killed or seriously injured by support vessels and vessels used for Project-related offshore barging activities or may display behavioral avoidance to vessels (PG&E, 2021d). Per the MMPA (see Section 4.4.2, *Marine Mammal*

Protection Act), harassment means any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or that has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering, but does not have the potential to injure a marine mammal or marine mammal stock in the wild (Level B harassment).

Although unlikely, impacts due to vessel collision and entanglement could result in serious injury or mortality and would be considered a significant impact. In addition, behavioral avoidance could also be considered a direct effect, which may indirectly result in reducing foraging or breeding success. For example, within the Intake Cove, groups of up to approximately thirty southern sea otters typically rest overnight and disperse to offshore foraging areas during the day (PG&E, 2021c). Since female sea otters can nurse pups for six to 12 months there is a high probability that a female with a pup could be present in the construction area, and while vessel collision is unlikely, possible separation or displacement may occur, which would be considered a significant impact.

PG&E has included special-status species training as part of the Proposed Project. AC BIO-1 (*Worker's Environmental Awareness Training – Biological Resources*) provides environmental awareness training and documentation for all construction personnel prior to start of any Project activities. The training would include photographs and a description of the ecology of all special-status species known, or with potential, to occur on site, as well as other sensitive resources requiring avoidance near the Project site. The training would also include an overview of the required avoidance, minimization, and mitigation measures and Project boundaries and avoidance area. AC BIO-2 (*General Marine Operations and Wildlife Protection*) and AC BIO-5 (*General Wildlife Protection*) would implement measures that minimize impacts to all wildlife species during construction and would include reporting and documentation procedures in the event of an inadvertent "take" of federal or state-listed species.

However, without mitigation impacts would be potentially significant. MM MBIO-7 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan*) would reduce impacts to sensitive species from Project-related vessel activities to a less than significant level (Class II). MM MBIO-7 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan*) requires updating PG&E's Marine Wildlife Contingency Plan (PG&E, 2020b) to ensure that no harassment of marine mammals or other marine life occurs during offshore Project activities and would require a description of the work activities; qualifications, number, location, and roles/authority of MWOs; exclusion zones; and monitoring and reporting requirements.

Seabirds may also be disturbed from their natural foraging and resting activities due to Project-related vessel activities. No listed seabirds are known to nest in the Project area, however, black oystercatcher (*Haematopus bachmani*), a USFWS Bird of Conservation Concern, along with pelagic cormorant (*Phalacrocorax pelagicus*), cliff swallow (Petrochelidon pyrrhonota), western gull (*Larus occidentalis*), and Brandt's cormorant (*Phalacrocorax penicillatus*) have been observed nesting along the coastal bluff and offshore rocks adjacent to the main facility at the DCPP site (PG&E, 2021c). However, seabirds are highly mobile, and would be able to adjust to the direct, short-term effects of vessel activities by moving to other nearby foraging and resting locations. Project activities also take place over a relatively small area, leaving other accessible areas for

foraging and resting. Therefore, no significant direct or indirect effects are expected for seabirds from vessel activities (Class III).

Listed fish species have a low likelihood of occurrence within the Project area, and Project-related vessel activities are not expected to have any direct or indirect effects on listed fish species, as it is assumed that fish could actively avoid ship strikes or entanglement in anchor lines (Class III).

Discharge Structure Removal and Restoration Activity

Similar to the waste transportation activities, Discharge Structure removal activities includes increased vessel activity, and therefore similar impacts to special status species such as marine mammals, sea turtles, and seabirds would occur, and MM MBIO-7 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan*) would apply.

Intertidal and subtidal habitat around the Discharge Structure would be directly impacted during cofferdam installation, dewatering, and removal, and would result in the temporary loss of benthic habitat and mortality to all sessile species, species with limited mobility, and species trapped within the cofferdam area. The only special status species that may occur in the vicinity of the Discharge Structure and potentially affected by this activity would be black abalone. Immediately downcoast of the Discharge Structure where the cofferdam would join the shoreline, the intertidal and shallow subtidal habitat consists of emergent bedrock that forms a rocky bench typical of the high-quality habitat found elsewhere along the coastline. This bench habitat also represents reasonably promising black abalone habitat, although no black abalone were observed in this area during recent surveys (PG&E, 2021a). Black abalone were only observed along the ocean side of the West Breakwater (PG&E, 2021a). If black abalone were present around the Discharge Structure during Project implementation, they may be crushed or killed during cofferdam installation and dewatering. This impact to black abalone would be considered significant. Implementation of MM MBIO-5 (*Preconstruction Survey for Black Abalone*) would reduce this impact to the extent feasible; however, because of the uncertainty associated with the success of relocation of black abalone (MM MBIO-5), impacts would remain significant and unavoidable (Class I). No other special status species are expected to occur in the Discharge Structure project footprint.

Water Management Activity

As discussed under Impact MBIO-1, modeling results indicate that no adverse effects from brine discharges would be expected, and that the salinity would quickly drop to background levels a short distance from the discharge point (PG&E, 2021e). The primary discharge (Discharge Point 001) is regulated under the NPDES program (Permit CA0003751) by the Central Coast RWQCB, and the permit has published effluent limitations and is routinely monitored and reported by PG&E. No special-status species occur within the current discharge area, and therefore impacts from brine and wastewater discharge to special status species during decreased OTC flows would be less than significant (Class III). In addition, no special-status species are known to occur within the current Intake Structure project footprint; therefore, impacts from the Intake Structure Closure Activity including cessation of flows to special status species would be less than significant (Class III).

Phase 2

Discharge Structure Removal and Restoration Activity

Discharge Structure removal and restoration activities are anticipated to extend into Phase 2 and conclude in 2033. Impacts associated with this activity are discussed under Phase 1 and are expected to be similar in Phase 2, and would be mitigated to the extent feasible through implementation of MM MBIO-5 (*Preconstruction Survey for Black Abalone*) and MM MBIO-7 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan*). However, because of the uncertainty associated with the success of relocation of abalone (per MM MBIO-5), impacts would remain significant and unavoidable (Class I).

Intake Structure Closure Activity

No special-status species are known to occur within the Intake Structure project footprint; therefore, impacts from the Intake Structure Closure Activity including reduction and cessation of flows to special status species would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Since no in-water operations are anticipated, no impacts to special status species would occur.

Future Actions. No special-status species occur within the Marina area footprint (i.e., Intake Structure and existing boat dock), and therefore impacts from Marina activities to special status species would be less than significant (Class III).

Mitigation Measures for Impact MBIO-2.

MBIO-5 Preconstruction Survey for Black Abalone

MBIO-7 Marine Mammal and Sea Turtle Mitigation and Monitoring Plan

Residual Impacts. Due to the uncertainty associated with the success of relocation of black abalone (MMs MBIO-4 and MBIO-5), impacts associated with Discharge Structure removal and restoration activities in Phases 1 and 2 of the Proposed Project and the potential to harm or disturb special-status invertebrate would remain significant and unavoidable (Class I).

Impact MBIO-3: Generate noise or vibration levels above or below the water surface that could result in disturbance or injury to marine life (Class II: Less than Significant with Mitigation).

Decommissioning activities would generate noise above and below the water surface that could impact marine life. The anticipated main sources of noise from in-water decommissioning activities would be from vessels (both construction and support) and vibratory pile driving. Both of these sources are considered non-impulsive that is more tonal and broadband, can be intermittent or continuous, and does not have a high peak pressure. This is contrasted with an impulsive sound source (e.g., impact pile driving, seismic air guns, and explosives), which

generally has a high peak pressure with rapid rise and decay time and short duration time. Regardless of source, impacts from noise to marine organisms are generally defined as those causing permanent hearing loss and loss of hearing sensitivity (permanent threshold shift [PTS]); those causing a temporary impact to an organism's hearing abilities with a return to normal hearing (temporary threshold shift [TTS]), and those causing a change in an organism's behavior. The response can vary based on the hearing capabilities of the organism.

PG&E prepared an Underwater Noise Impact Assessment (PG&E, 2022a), which provides a detailed analysis of underwater noise impacts on marine organisms associated with decommissioning activities. Noise generating activities (i.e., vessel activity and vibratory pile driving) were modeled to calculate distances to PTS and behavioral shift for receptor groups that included marine mammals, sea turtles, fish, and seabirds. The distances were mapped to visually show the acoustical impact zones for each in-water construction related activity and the associated receptor group. The methodology for the impact assessment followed accepted standards, and species in each receptor group were evaluated for ecological sensitivity, prevalence in the area, likelihood of occurrence (see Tables 4.4-6 through 4.4-10), and biological significance. Some receptor groups did not have commonly occurring species in the Project area; however, a sensitive receptor was still chosen to represent that hearing group. Analysis was performed to understand the linkage on Project-related activities and resources affected. Sensitivity of each receptor was considered, and largely depended on abundance, ecological range, and status, with sensitivity criteria for ecological receptors outlined in Table 4.4-12.

Table 4.4-12. Sensitivity Criteria for Ecological Receptors

Sensitivity	Definitions
Low	Ecological receptors are abundant, common or widely distributed and are generally adaptable to changing environments. Species are not endangered or protected.
Medium	Some ecological receptors have low abundance, restricted ranges, are currently under pressure or are slow to adapt to changing environments. Species are valued locally/regionally and may be endemic, endangered or protected.
High	Some ecological receptors in the area are rare or endemic, under significant pressure and/or highly sensitive to changing environments. Species are valued nationally/globally and are listed as endangered or protected.

Source: PG&E, 2022a - Table 10.2-1.

Magnitude was considered as a function of the duration, frequency, scale, and extent of Project activities. It also included any uncertainty about the occurrence of scale of the impact, expressed as ranges, confidence limits, or likelihood. The impact assessment described the actual change that was predicted to occur to the receptor (e.g., the degree and probability of impact on marine life). Magnitude criteria for ecological receptors are outlined in Table 4.4-13. Impact was determined based on the synthesis of sensitivity of receptors and magnitude of impact (Tables 4.4-12 and 4.4-13), and were determined to be negligible, low, moderate, or high (PG&E, 2022a).

Table 4.4-13. Magnitude Criteria for Ecological Receptors

Sensitivity	Definitions
Negligible	Immeasurable, undetectable or within the range of normal natural variation.
Low	Affects a specific group of localized individuals within a population over a short time period (one generation or less) but does not affect other trophic levels or the population itself.
Medium	Affects a portion of a population and may bring about a change in abundance and/or distribution over one or more generations but does not threaten the integrity of that population or any population dependent on it.
High	Affects an entire population or species in sufficient magnitude to cause a decline in abundance and/or change in distribution beyond which natural recruitment (reproduction, immigration from unaffected areas) would not return that population or species, or any population or species dependent upon it, to its former level within several generations.

Source: PG&E, 2022a - Table 10.3-1.

Phase 1

DCPP Project Site

Waste Transportation Activity

The waste transportation activity includes transporting waste from the DCPP site using ocean-going tugboats and barges. Therefore, the main source of noise is from vessel operations. The impact analysis in PG&E's Underwater Noise Impact Assessment (PG&E, 2022a) depicts noise impact distances with the source emanating from Diablo Cove and not the Intake Cove where barge loading is expected to occur. However, model results would be the same regardless of the source location, as the model cannot account for many factors such as water depth, temperature, salinity, pressure, or obstructions. For the Intake Cove, it would be expected that impact distances outside the cove would be reduced from any noise-generating activity due to the presence of the breakwaters, and for vessel movement, it's expected that the sound source would not be stationary but would vary based on vessel activity and movement.

For marine mammals, the PTS threshold was calculated using the NOAA User Calculation Spreadsheet for non-impulsive stationary continuous noise, and behavioral shifts were calculated using the formula for transmission loss (PG&E, 2022a). The distance (one meter from the source) to the marine mammal isopleth threshold was calculated for each hearing group, which included:

- Low-frequency cetaceans (e.g., minke whale, gray whale)
- Mid-frequency cetaceans (e.g., Risso's dolphin, Pacific white-sided dolphin, Common bottlenose dolphin)
- High-frequency cetaceans (e.g., harbor porpoise)
- Otariid pinnipeds or eared seals (e.g., California sea lion, Steller sea lion)
- Phocid pinnipeds (e.g., Northern elephant seal, harbor seal)

Table 4.4-14 indicates that the PTS distance would not exceed 2 meters from the source for all hearing groups, and that behavioral distance was generally higher at 398 meters from the source

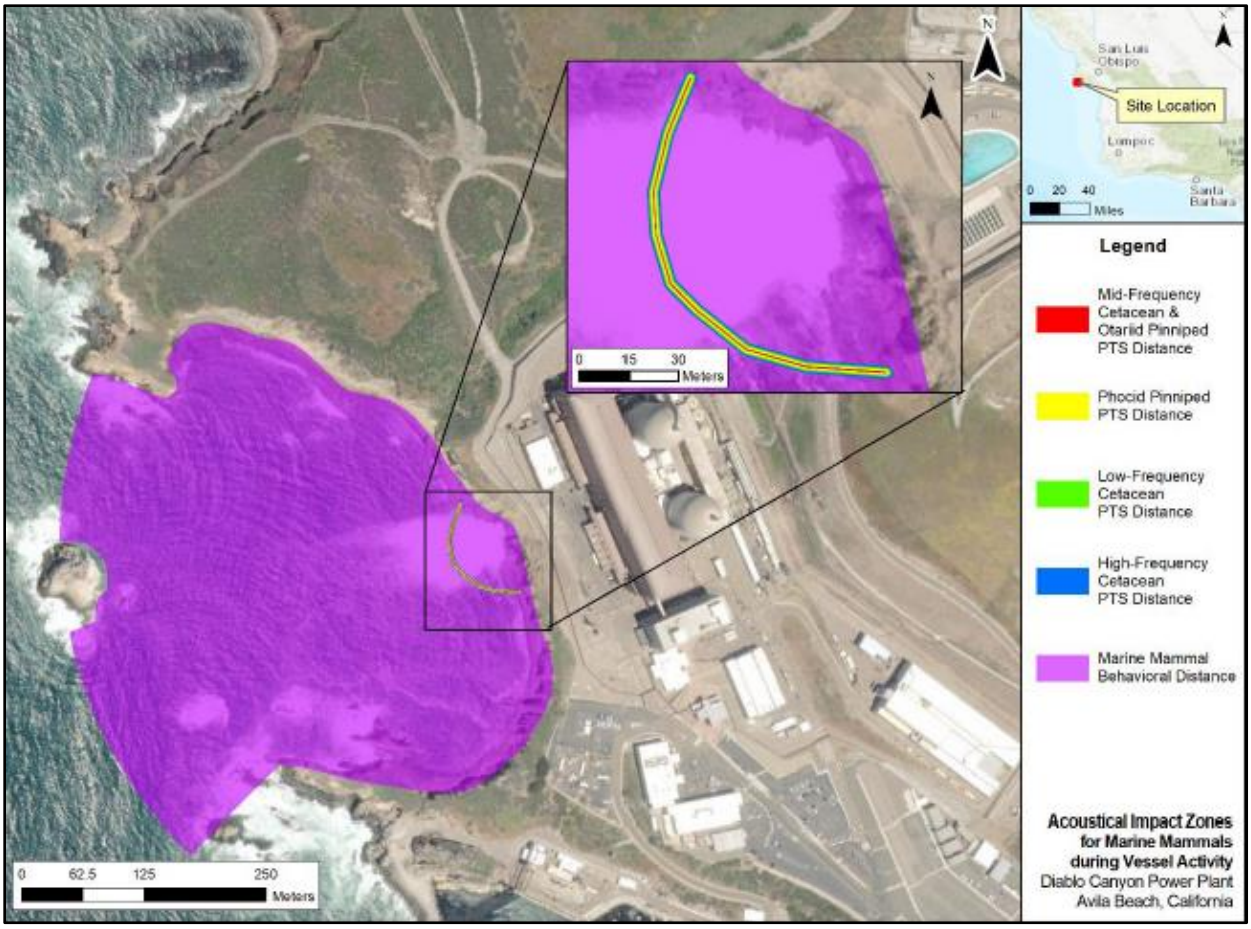
(PG&E, 2022a). Figure 4.4-6 illustrates the modeled impact zones for each marine mammal receptor group for vessel activity.

Table 4.4-14. Distances to the PTS and Behavioral Onset Acoustic Thresholds for Marine Mammals during Vessel Activity

Hearing Group	Low-Frequency Cetaceans	Mid-Frequency Cetaceans	High-Frequency Cetaceans	Otariid Pinnipeds	Phocid Pinnipeds
PTS Distance, SEL_{cum} (meters)	1.3	0.1	1.9	0.1	0.8
Behavior Distance (meters)	398	398	398	398	398

Source: PG&E, 2022a - Table 11.3.1-1.
Acronyms: PTS-Permanent Threshold Shift; SEL_{cum} - Cumulative Sound Exposure Level - takes into account both received level and duration of exposure.

Figure 4.4-6. Acoustical Impact Zones for Marine Mammals during Vessel Activity



Source: PG&E, 2022a - Figure 11.3.1-5.

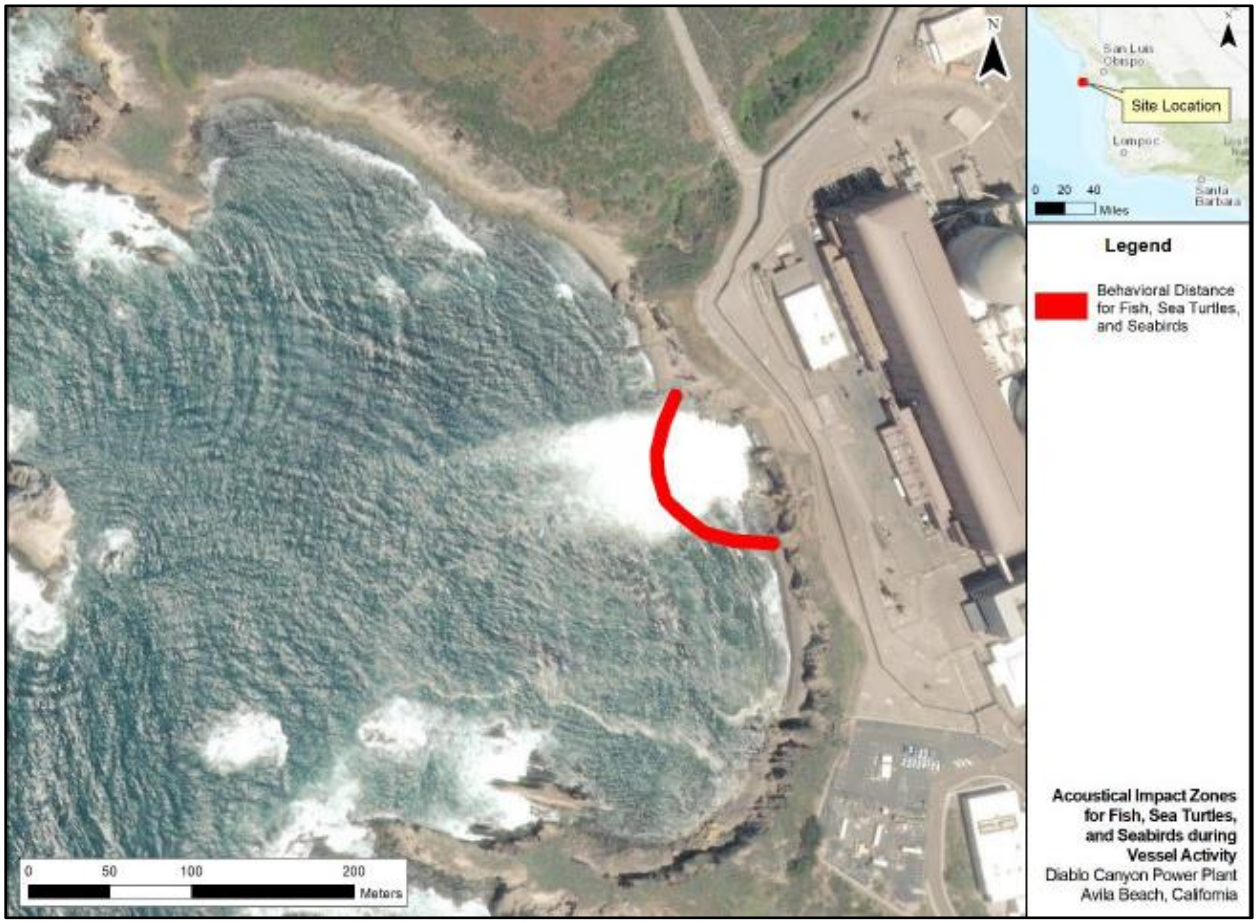
Due to lack of PTS data for vessel activity, only behavioral shift was evaluated for fish, sea turtles, and seabirds, with results indicating a behavioral shift at 4 meters from the sound source (Table 4.4-15 and Figure 4.4-7).

Table 4.4-15. Distances to Behavioral Onset Acoustic Thresholds for Fish, Sea Turtles, and Seabirds during Vessel Activity

Hearing Group	Fish < 2 grams	Fish ≥ 2 grams	Sea Turtles	Seabirds
Behavior Shift Distance (meters)	4.0	4.0	4.0	4.0

Source: PG&E, 2022a - Table 11.2.2-1.

Figure 4.4-7. Acoustical Impact Zones for Fish, Sea Turtles, and Seabirds during Vessel Activity



Source: PG&E, 2022a - Figure 11.3.2-6.

Table 4.4-16 summarizes the sensitivity, magnitude of impact for vessel activity, and impact category for each sensitive receptor. While vessel activity would not pose a high impact to any species; it would pose a moderate impact to the humpback whale and harbor porpoise; a minor impact to the gray whale and harbor seal, and a negligible impact to the 12 remaining species. Per the MMPA (see Section 4.4.2.2, *Marine Mammal Protection Act*), harassment means any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or that has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering, but does not have the potential to injure a marine mammal or marine mammal stock in the wild (Level B harassment). While mortality is unlikely due to Project-related activities, behavioral changes could occur that would be considered a significant impact (Level B harassment) for any

marine mammal or sea turtle (protected under FESA) that would be present within the impact zone.

Table 4.4-16. Summary of Sensitive Receptors with Sensitivity Ranking, Magnitude of Impact, and Impact Category for Vessel Activity

Scientific Name	Common Name	Hearing Group	Sensitivity Ranking	Magnitude of Impact	Impact Category
Megaptera novaeangliae	Humpback whale	Low-Frequency Cetacean	High	Small	Moderate
Eschrichtius robustus	California Gray Whale	Low-Frequency Cetacean	Medium	Small	Minor
Lagenorhynchus obliquidens	Pacific White-sided Dolphin	Mid-Frequency Cetacean	Low	Small	Negligible
Phocoena phocoena	Harbor Porpoise	High-Frequency Cetacean	High	Small	Moderate
Enhydra lutris nereis	Southern Sea Otter[1]	Otariid Pinniped	Low	Small	Negligible
Zalophus californianus	California Sea Lion	Otariid Pinniped	Low	Small	Negligible
Phoca vitulina richardii	Harbor seal	Phocid Pinniped	Medium	Small	Minor
Sebastes chrysomelas	Black and yellow rockfish	Fish	Low	Negligible	Negligible
Sebastes carnatus	Gopher rockfish	Fish	Low	Negligible	Negligible
Oxylebius pictus	Painted greenling	Fish	Low	Negligible	Negligible
Sebastes mystinus	Blue rockfish	Fish	Low	Negligible	Negligible
Embiotoca lateralis	Lined surfperch	Fish	Low	Negligible	Negligible
Oxyjulis californica	Señorita	Fish	Low	Negligible	Negligible
Chelonia mydas	Green Sea Turtle	Sea Turtle	Medium	Negligible	Negligible
Pelecanus occidentalis	California Brown pelican	Seabird	Low	Negligible	Negligible

Source: PG&E, 2022a - Table 11.3.3-1.
[1]Southern Sea Otters are technically fissipeds; however, their hearing most resembles otariid pinnipeds and were therefore classified as such in the impact analysis.

As part of the Proposed Project, PG&E would provide environmental awareness training and documentation for all construction personnel prior to start of any Project activities (AC BIO-1, *Worker's Environmental Awareness Training – Biological Resources*). The training would include photographs and a description of the ecology of all special-status species known, or with potential, to occur on site, as well as other sensitive resources requiring avoidance near the Project site. The training would also include an overview of the required avoidance, minimization, and mitigation measures and Project boundaries and avoidance area. Additionally, PG&E would implement measures that minimize impacts to all wildlife species during construction and complete reporting and documentation in the event of an inadvertent "take" of federal or state-listed species (AC BIO-2, *General Marine Operations and Wildlife Protection*, and AC BIO-5, *General Wildlife Protection*). To reduce impacts from Project-related vessel activities, MM MBIO-7 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan*) is recommended, which requires updating PG&E's Marine Wildlife Contingency Plan (PG&E, 2020b) to ensure that no harassment of marine mammals or other marine life occurs during offshore Project activities and

would require a description of the work activities; qualifications, number, location, and roles/ authority of MWOs; exclusion zones; and monitoring and reporting requirements. As such, impacts would be less than significant (Class II).

Discharge Structure Removal and Restoration Activity

The removal of the Discharge Structure requires construction of a cofferdam within Diablo Cove to isolate the work area from the ocean. Vibratory pile driving would be used for cofferdam construction activities. Noise modeling for two pile types (24-inch sheet piles and 24-inch pipe piles) was conducted for all receptor groups (PG&E, 2022a). The PTS threshold was calculated using the NOAA User Calculation Spreadsheet for vibratory pile driving. Behavioral shifts were calculated using the formula for transmission loss.

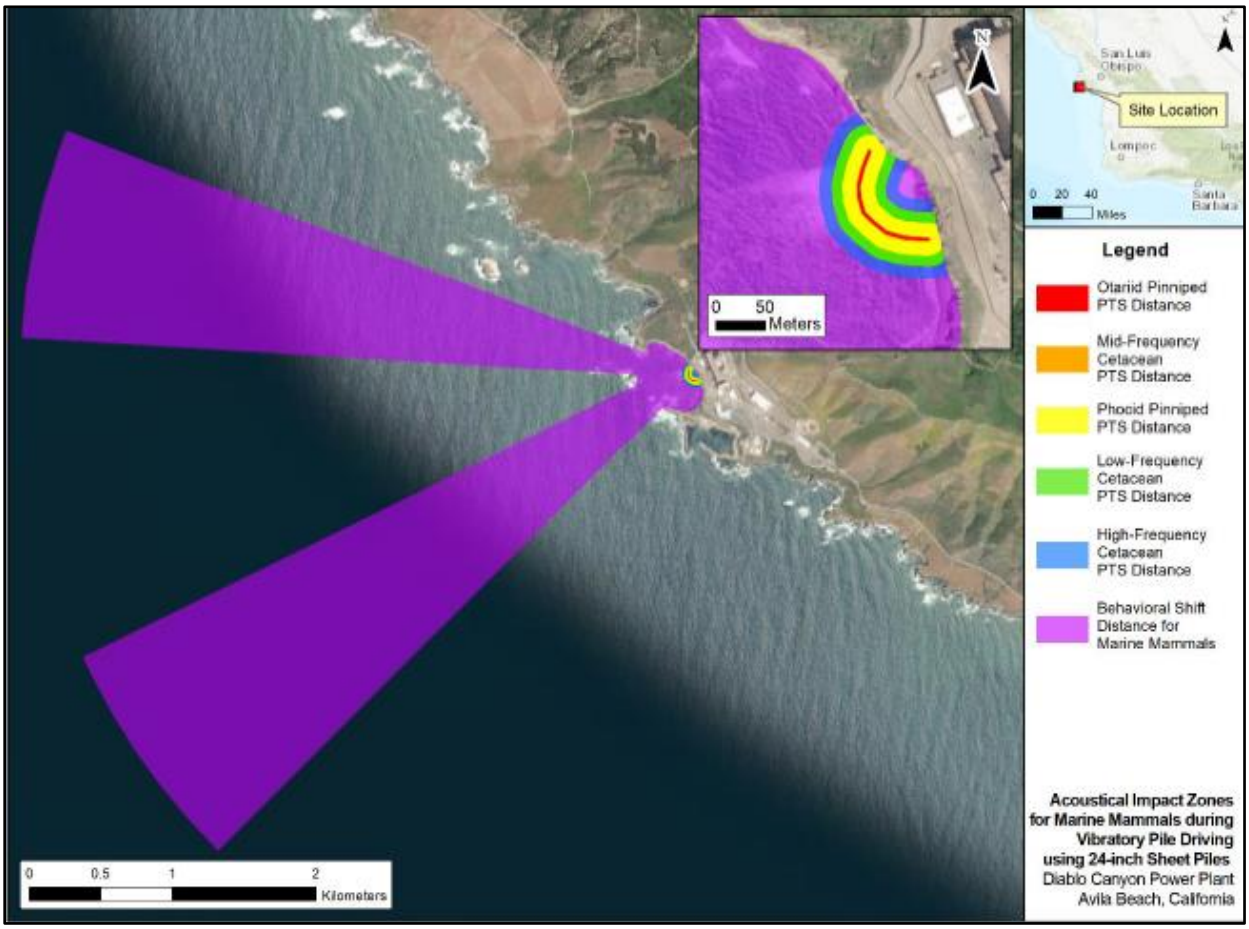
Table 4.4-17 presents the distance (one meter from the source) to the marine mammal isopleth threshold for each hearing group for sheet piles. The PTS distance ranged from 1.2 meters for Otariid pinnipeds to 40.2 meters for high-frequency cetaceans. Behavioral distances were generally higher at 4,642 meters from the source (PG&E, 2022a). Figure 4.4-8 illustrates the modeled impact zones for each marine mammal receptor group for vibratory pile driving using 24-inch sheet piles.

Table 4.4-17. Distance to the PTS and Behavioral Onset Acoustic Threshold for Marine Mammals during Vibratory Pile Driving Using 24-inch Sheet Piles

Hearing Group	Low-Frequency Cetaceans	Mid-Frequency Cetaceans	High-Frequency Cetaceans	Otariid Pinnipeds	Phocid Pinnipeds
PTS Distance, SEL_{cum} (meters)	27.2	2.4	40.2	1.2	16.5
Behavior Distance (meters)	4,642	4,642	4,642	4,642	4,642

Source: PG&E, 2022a - Table 11.2.1.1.
Acronyms: PTS-Permanent Threshold Shift; SEL_{cum} – Cumulative Sound Exposure Level

Figure 4.4-8. Acoustical Impact Zones for Marine Mammals during Vibratory Pile Driving Using 24-inch Sheet Piles



Source: PG&E, 2022a – Figure 11.2.1-1

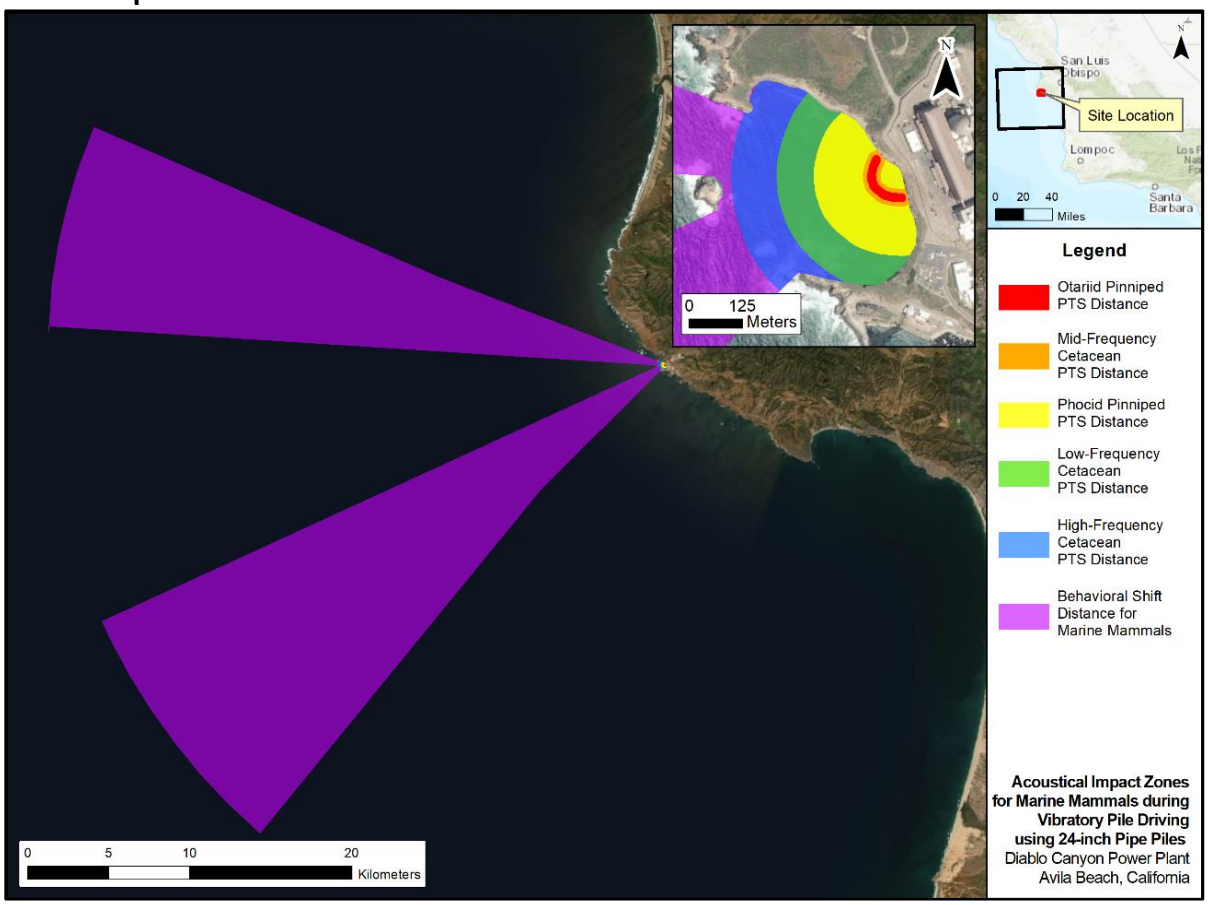
Table 4.4-18 presents the distance (one meter from the source) to the marine mammal isopleth threshold for each hearing group for pipe piles. The PTS distance ranged from 9.5 meters for Otariid pinnipeds to 329.7 meters for high-frequency cetaceans. Behavioral distances are generally higher at 38,072 meters from the source (PG&E, 2022a). Figure 4.4-9 illustrates the modeled exclusion zones for each marine mammal receptor group for vibratory pile driving using 24-inch pipe piles.

Table 4.4-18. Distance to the PTS and Behavioral Onset Acoustic Threshold for Marine Mammals during Vibratory Pile Driving Using 24-inch Pipe Piles

Hearing Group	Low-Frequency Cetaceans	Mid-Frequency Cetaceans	High-Frequency Cetaceans	Otariid Pinnipeds	Phocid Pinnipeds
PTS Distance, SEL_{cum} (meters)	223.0	19.8	329.7	9.5	135.6
Behavior Distance (meters)	38,072	38,072	38,072	38,072	38,072

Source: PG&E, 2022a - Table 11.2.1.2.
Acronyms: PTS-Permanent Threshold Shift; SEL_{cum}=Cumulative Sound Exposure Level

Figure 4.4-9. Acoustical Impact Zones for Marine Mammals during Vibratory Pile Driving Using 24-inch Pipe Piles



Source: PG&E, 2022a – Figure 11.2.1-2.

For fish, both the SEL_{cum} and peak Sound Pressure Level (SPL) for vibratory sheet pile driving have an impact zone of less than 0.3 meters from the sound source, while behavioral shifts would be observed 46 meters from the sound source (Table 4.4-19). For pipe pile driving, behavioral shifts would be observed 381 meters from the sound source (Table 4.4-19).

Table 4.4-19. Distance to the PTS and Behavioral Onset Acoustic Threshold for Fish during Vibratory Pile Driving Using 24-inch Sheet Piles and 24-inch Pipe Piles

	24-inch Sheet Piles		24-inch Pipe Piles	
Hearing Group	**Fish < 2 grams**	**Fish ≥ 2 grams**	**Fish < 2 grams**	**Fish ≥ 2 grams**
Onset of Physical Injury, Peak SPL (meters)	<0.3	<0.3	-	-
Onset of Physical Injury, SEL_{cum} (meters)	<0.3	<0.3	-	-
Behavior Distance (meters)	46	46	381	381

Source: PG&E, 2022a – Table 11.2.2-1.
Acronyms: SPL = Sound Pressure Level; SEL_{cum}=Cumulative Sound Exposure Level
- = No Peak or SEL_{cum} SPL for pipe piles

For sea turtles, thresholds were categorized as the onset of mortality or shift in behavior due to lack of existing data (PG&E, 2022a). Table 4.4-20 shows the distance for mortal injury or a behavior shift from the sound source for vibratory sheet pile driving, with an impact zone of less

than 0.005 meters from the sound source. Behavioral shifts would be observed 46 meters from the sound source (Table 4.4-20). For pipe pile driving, behavioral shifts would be observed 381 meters from the sound source (Table 4.4-20).

Table 4.4-20. Distances to Mortality and Behavioral Onset Acoustic Thresholds for Sea Turtles during Vibratory Pile Driving Using 24-inch Sheet Piles and 24-inch Pipe Piles

Hearing Group	24-inch Sheet Piles	24-inch Pipe Piles
	Sea Turtles	Sea Turtles
Mortality, Potential Mortal Injury Distance (meters)	<0.005	--
Behavioral Shift Distance (meters)	46	381

Source: PG&E, 2022a - Table 11.2.2-3.
- = No SEL_{cum} SPL for pipe piles

For seabirds, thresholds were categorized as auditory and non-auditory with regards to impact pile driving (PG&E, 2022a). Table 4.4-21 show the distance for mortal auditory injury, non-auditory injury, and behavioral shift from the sound source for vibratory sheet pile driving with an impact zone of less than 0.01 meters from the sound source. Behavioral shifts would be observed at 46 meters from the sound source (Table 4.4-21). For pipe pile driving, behavioral shifts would be observed 381 meters from the sound source (Table 4.4-21).

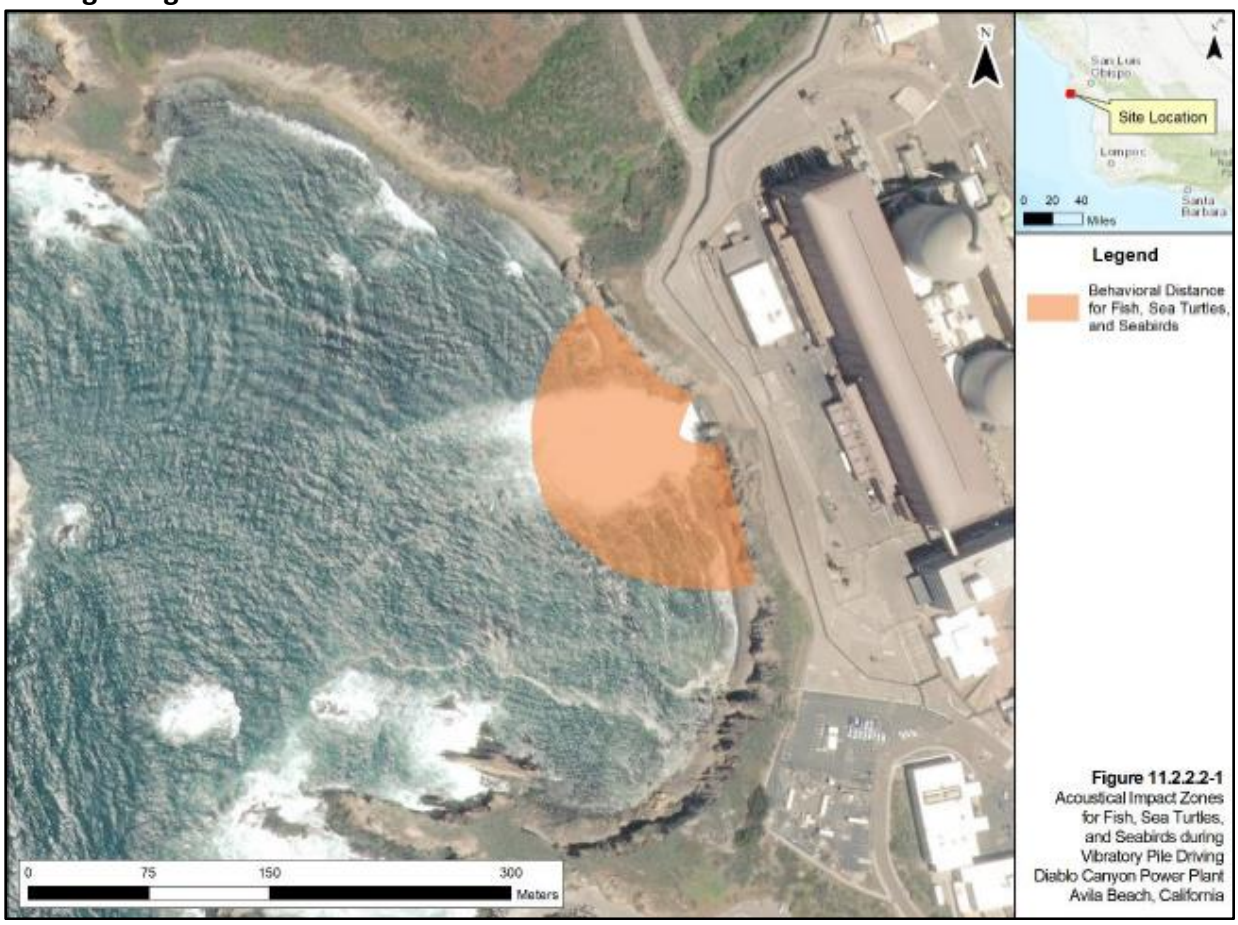
Table 4.4-21. Distances to Mortality and Behavioral Onset Acoustic Thresholds for Seabirds during Vibratory Pile Driving Using 24-inch Sheet Piles and 24-inch Pipe Piles

Hearing Group	24-inch Sheet Piles	24-inch Pipe Piles
	Seabirds	Seabirds
Auditory Injury Threshold Distance (meters)	<0.01	--
Non-auditory Injury Threshold Distance (meters)	<0.01	
Behavioral Distance (meters)	46	381

Source: PG&E, 2022a – Table 11.2.5-5.
- = No SEL_{cum} SPL for pipe piles

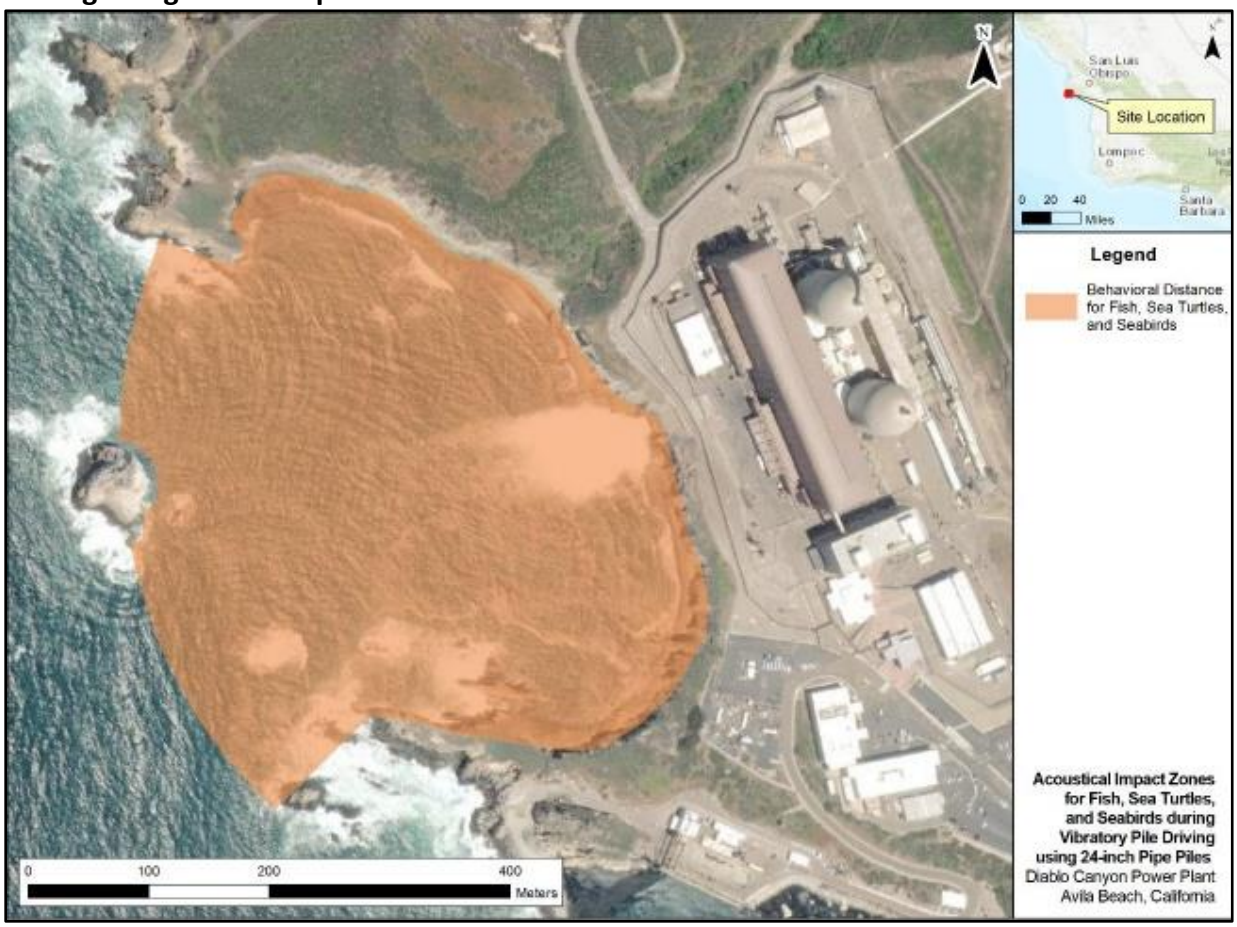
Figure 4.4-10 illustrates the acoustical impact zones for fish, sea turtles, and seabirds for 24-inch sheet piles, while Figure 4.4-11 illustrates the acoustical exclusion zones for fish, sea turtles, and seabirds for 24-inch pipe piles.

Figure 4.4-10. Acoustical Impact Zones for Fish, Sea Turtles, and Seabirds during Vibratory Pile Driving Using 24-inch Sheet Piles



Source: PG&E, 2022a – Figure 11.2.2-3.

Figure 4.4-11. Acoustical Impact Zones for Fish, Sea Turtles, and Seabirds during Vibratory Pile Driving Using 24-inch Pipe Piles



Source: PG&E, 2022a – Figure 11.2.2-4.

Table 4.4-22 summarizes the sensitivity, magnitude of impact for vibratory pile driving for both pile types, and impact category for each sensitive receptor. Vibratory pile driving using 24-inch sheet piles would: (1) not pose a major impact to any species, (2) pose a moderate impact to the humpback whale and harbor porpoise, (3) pose a minor impact to the gray whale and harbor seal, and (4) pose a negligible impact to the 11 remaining species listed in Table 4.4-22. Vibratory pile driving using 24-inch pipe piles would: (1) not pose a major impact to any species; (2) pose a moderate impact to the humpback whale and harbor porpoise; and (3) pose a minor impact to the gray whale, harbor seal, black/yellow rockfishes, gopher rockfishes, painted greenlings, blue rockfishes, lined surfperch, senoritas, green sea turtles, and the California brown pelican. While fishes and seabirds may be disturbed from their natural activities due to Project-related activities, they are generally mobile organisms, and would be able to adjust to the short-term effects of noise-generating activities by moving to other locations. Similar to the waste transportation activities, while mortality is unlikely due to Project-related activities, behavioral changes could occur that would be considered a significant impact (Level B harassment) for any marine mammal or sea turtle (protected under FESA) that would be present within the impact zone.

Table 4.4-22. Summary of Sensitive Receptors with Sensitivity Ranking, Magnitude of Impact, and Impact Category for Vibratory Pile Driving for Both Pile Types

Scientific Name	Common Name	Hearing Group	Sensitivity Ranking	Magnitude of Impact	Impact Category
Megaptera novaeangliae	Humpback whale	Low-Frequency Cetacean	High	Small	Moderate
Eschrichtius robustus	California Gray Whale	Low-Frequency Cetacean	Medium	Small	Minor
Lagenorhynchus obliquidens	Pacific White-sided Dolphin	Mid-Frequency Cetacean	Low	Small	Negligible
Phocoena phocoena	Harbor Porpoise	High-Frequency Cetacean	High	Small	Moderate
Enhydra lutris nereis	Southern Sea Otter[1]	Otariid Pinniped	Low	Small	Negligible
Zalophus californianus	California Sea Lion	Otariid Pinniped	Low	Small	Negligible
Phoca vitulina richardii	Harbor seal	Phocid Pinniped	Medium	Small	Minor
Sebastes chrysomelas	Black and yellow rockfish	Fish	Low	Negligible (SP) Small (PP)	Negligible (SP) Minor (PP)
Sebastes carnatus	Gopher rockfish	Fish	Low	Negligible (SP) Small (PP)	Negligible (SP) Minor (PP)
Oxylebius pictus	Painted greenling	Fish	Low	Negligible (SP) Small (PP)	Negligible (SP) Minor (PP)
Sebastes mystinus	Blue rockfish	Fish	Low	Negligible (SP) Small (PP)	Negligible (SP) Minor (PP)
Embiotoca lateralis	Lined surfperch	Fish	Low	Negligible (SP) Small (PP)	Negligible (SP) Minor (PP)
Oxyjulis californica	Señorita	Fish	Low	Negligible (SP) Small (PP)	Negligible (SP) Minor (PP)
Chelonia mydas	Green Sea Turtle	Sea Turtle	Medium	Negligible (SP) Small (PP)	Negligible (SP) Minor (PP)
Pelecanus occidentalis	California Brown pelican	Seabird	Low	Negligible (SP) Small (PP)	Negligible (SP) Minor (PP)

Source: PG&E, 2022a - Table 11.7.3-1.
Acronyms: SP: sheet pile; PP: pipe pile
[1] Southern Sea Otters are technically fissipeds; however, their hearing most resembles otariid pinnipeds and were therefore classified as such in the impact analysis.

As part of the Proposed Project, PG&E would provide environmental awareness training and documentation for all construction personnel prior to start of any Project activities (AC BIO-1, *Worker's Environmental Awareness Training – Biological Resources*). The training would include photographs and a description of the ecology of all special-status species known, or with potential, to occur on site, as well as other sensitive resources requiring avoidance near the Project site. The training would also include an overview of the required avoidance, minimization,

and mitigation measures and Project boundaries and avoidance area. Additionally, PG&E would implement measures that minimize impacts to all wildlife species during construction and complete reporting and documentation in the event of an inadvertent "take" of federal or state-listed species (AC BIO-2, *General Marine Operations and Wildlife Protection*, and AC BIO-5, *General Wildlife Protection*). To reduce impacts from Project-related activities, MM MBIO-7 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan*) is recommended, which requires updating PG&E's Marine Wildlife Contingency Plan (PG&E, 2020b) to ensure that no harassment of marine mammals or other marine life occurs during offshore Project activities and would require a description of the work activities; qualifications, number, location, and roles/ authority of MWOs; exclusion zones; and monitoring and reporting requirements. As such, impacts would be less than significant (Class II).

Water Management Activity

No noise sources are anticipated from the water management activities; therefore, no impacts from noise to marine biological resources are expected.

Phase 2

Discharge Structure Removal and Restoration Activity

Discharge Structure removal and restoration activities are anticipated to extend into Phase 2 and conclude in 2033. Impacts associated with this activity are discussed under Phase 1 and are expected to be similar in Phase 2, and would be mitigated through implementation of MM MBIO-7 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan*) resulting in a less-than-significant impact (Class II).

Intake Structure Closure Activity

Intake Structure closure would entail sealing the structure with precast concrete bulkheads that would be installed on the existing structure and backfilling the void with CLSM. Construction is anticipated to occur from on top of the Intake Structure with no in-water equipment; however, it is anticipated that some underwater noise would be generated from the activity although it would be expected to be substantially less than that produced by the Discharge Structure Removal Activity as no pile driving is expected. Similar to the Discharge Structure Removal Activity, while fishes and seabirds may be disturbed from their natural activities due to Project-related activities, they are generally mobile organisms, and would be able to adjust to the short-term effects of noise-generating activities by moving to other locations. For marine mammals and sea turtles, while mortality is unlikely due to Project-related activities; behavioral changes could occur that would be considered a significant impact (Level B harassment) for any marine mammal or sea turtle (protected under FESA and CESA) present within the impact zone.

As part of the Proposed Project, PG&E would provide environmental awareness training and documentation for all construction personnel prior to start of any Project activities (AC BIO-1, *Worker's Environmental Awareness Training – Biological Resources*). The training would include photographs and a description of the ecology of all special-status species known, or with potential, to occur on site, as well as other sensitive resources requiring avoidance near the Project site. The training would also include an overview of the required avoidance, minimization, and

mitigation measures and Project boundaries and avoidance area. Additionally, PG&E would implement measures that minimize impacts to all wildlife species during construction and complete reporting and documentation in the event of an inadvertent "take" of federal or state-listed species (AC BIO-2, *General Marine Operations and Wildlife Protection*, and AC BIO-5, *General Wildlife Protection*). To reduce impacts from Project-related activities, MM MBIO-7 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan*) is recommended, which requires updating PG&E's Marine Wildlife Contingency Plan (PG&E, 2020b) to ensure that no harassment of marine mammals or other marine life occurs during offshore Project activities and would require a description of the work activities; qualifications, number, location, and roles/ authority of MWOs; exclusion zones; and monitoring and reporting requirements. As such, impacts would be less than significant (Class II).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. No in-water noise sources are anticipated from new facility operations; therefore, no impacts from noise to marine biological resources are expected.

Future Actions. All Marina improvements for establishing reuse are anticipated to occur on top of the Intake Structure or upland with, the exception of the installation of up to five mooring buoys in the Marina required per MM MBIO-9 (*Mooring Placement Habitat Survey*). MM MBIO-9 requires a pre-construction habitat survey be conducted prior to mooring installation to delineate sensitive habitats such as eelgrass beds and rocky reefs. It is assumed that moorings would consist of an anchor placed on soft-bottom substrate with the main source of noise being vessel traffic during buoy installation. Given the relatively low noise source, low number of anticipated vessels, and the relatively minor behavioral response anticipated from the operation of small vessels supporting the buoy installation, impacts from vessel use for mooring installation would be less than significant (Class III). Seabirds may be disturbed from their natural activities due to Project-related activities, but they are mobile organisms and would be able to adjust to the short-term effects of noise-generating activities by moving to other locations.

Marina operations would also result in an increase in small vessel use (i.e., vessels that could be launched using the boat hoist). Unlike crew or tugboats, these vessels are generally small and would operate intermittently within and outside the Intake Cove. Larger vessels create stronger and lower frequency sounds because of their greater power, large drafts, and slower turning engines and propellers; however, even small vessels can create sounds that would exceed the acoustic thresholds for non-impulsive, continuous noise (NMFS, 2018b). Therefore, any increase in ambient noise levels due to increased vessel activity would result in noise levels sufficient for disturbing marine mammals and sea turtles; however, given the relatively low noise source, low number of anticipated vessels, and the relatively minor behavioral response anticipated from small vessel operations, impacts from vessel use would be less than significant (Class III).

Mitigation Measures for Impact MBIO-3.

MBIO-7 Marine Mammal and Sea Turtle Mitigation and Monitoring Plan

Impact MBIO-4: Release pollutants into receiving water during decommissioning activities (Class I: Significant and Unavoidable).

Phase 1

DCPP Project Site

Waste Transportation Activity

Potential impacts from waste transportation activities to receiving waters includes increased vessel activity that may result in fuel or oil spills. Fuel or hydraulic leaks could occur from vessels or equipment positioned on vessels or barges. A fuel or oil spill could impact all marine biological resources; although, since fuel or oil would tend to float, the water surface and intertidal and shallow subtidal habitats and associated biological communities would be at greatest risk. Due to its location in the low intertidal and shallow subtidal zone, black abalone critical habitat would be especially vulnerable to fuel or oil spills. Effects on subtidal communities would be less apparent, but kelp canopies at or near the surface would also be vulnerable as would seabirds, fishes, marine mammals, and sea turtles that occur in the upper water column and surface waters. In addition, toxic components of a spill could spread to and degrade adjacent marine habitats due to ocean currents and weather conditions and could potentially bioaccumulate to higher trophic levels. While the consequence of a spill would result in the high likelihood of substantial degradation of marine habitats including receiving waters and critical habitat for listed species, and would be considered a significant impact.

As part of the Proposed Project, PG&E would provide environmental awareness training and documentation for all construction personnel prior to start of any Project activities (AC BIO-1, *Worker's Environmental Awareness Training – Biological Resources*). The training includes photo-graphs and a description of the ecology of all special-status species known, or with potential, to occur on site, as well as other sensitive resources requiring avoidance near the Project site. The training also includes an overview of the required avoidance, minimization, and mitigation measures and Project boundaries and avoidance area. Additionally, PG&E would implement measures that requires that construction equipment be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present (AC BIO-4, *Site Maintenance and General Operations*).

To reduce impacts to receiving waters and adjacent marine habitats, MM MBIO-8 (*Oil Spill Response Plan*) is recommended, which requires updating PG&E's Oil Spill Response Plan (PG&E, 2022e) to include at a minimum, a description of the Project scope-of-work and geographic area, pre-work planning needed to prepare for a possible nearshore oil spill, initial response procedures including agency notifications and onsite team communications, how the waste from the oil spill would be handled and disposed of, and a description of how the area would be decontaminated and how any contaminated materials handled. As such, impacts would be less than significant (Class II).

Discharge Structure Removal and Restoration Activity

Similar to the Waste Transportation Activity, impacts to receiving waters includes potential fuel or oil spills but also includes increased turbidity associated with cofferdam construction that includes pile driving and filling to seal the structure, as well as, dewatering the enclosed area. No details have been provided on the method of dewatering, but it is assumed that dewatered seawater would be pumped out of the confined area and discharged into the ocean. Each of these actions has the potential to increase turbidity in adjacent receiving waters, which may lower dissolved oxygen in the immediate vicinity of the discharge point, and could reduce foraging for fishes, seabirds, and marine mammals, as well as increase sedimentation on rocky reef and canopy kelp habitat in the area.

As part of the Proposed Project, PG&E would provide environmental awareness training and documentation for all construction personnel prior to start of any Project activities (AC BIO-1, *Worker's Environmental Awareness Training – Biological Resources*). The training includes photographs and a description of the ecology of all special-status species known, or with potential, to occur on site, as well as other sensitive resources requiring avoidance near the Project site. The training also includes an overview of the required avoidance, minimization, and mitigation measures and Project boundaries and avoidance area. Additionally, PG&E would implement measures that requires that construction equipment be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present (AC BIO-4, *Site Maintenance and General Operations*).

To reduce potential impacts to receiving waters, and marine mammals and sea turtles, MM MBIO-3 (*Water Quality Monitoring Plan*), MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*), MM MBIO-7 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan*), and MM MBIO-8 (*Oil Spill Response Plan*) are recommended. MM MBIO-8 (*Oil Spill Response Plan*) would require updating PG&E's Oil Spill Response Plan (PG&E, 2022e) to include at a minimum, a description of the Project scope-of-work and geographic area, pre-work planning needed to prepare for a possible nearshore oil spill, initial response procedures including agency notifications and onsite team communications, how the waste from the oil spill will be handled and disposed of, and a description of how the area will be decontaminated and how any contaminated materials will be handled. MM MBIO-3 (*Water Quality Monitoring Plan*) would require PG&E to update the Turbidity Monitoring Plan to include monitoring for turbidity and other water quality parameters such as dissolved oxygen to ensure that Project-related activities were not contributing to conditions that could degrade sensitive marine habitats. If water quality monitoring detected persistent and elevated levels of turbidity, BMPs would be implemented to avoid or minimize turbidity impacts to receiving waters and adjacent habitats. MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*) would require PG&E to develop a plan to avoid impacts to marine biological resources, receiving waters, sensitive habitats, and potentially protected species from all aspects associated with cofferdam construction and removal. The plan would require tasks such as a pre-construction habitat and biological survey, an approach to relocate marine life, and dewatering controls to minimize turbidity, and inspection schedule to ensure compliance. MM MBIO-7 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan*) would require updating PG&E's Marine Wildlife Contingency Plan (PG&E, 2020b) to ensure that no harassment of marine mammals or other marine life occurs during offshore Project activities and would require a

description of the work activities; a risk analysis; qualifications, number, location, and roles/ authority of MWOs; exclusion zones; and monitoring and reporting requirements. However, because of the uncertainty associated with the success of relocation of black abalone (per MM MBIO-4), impacts would remain significant and unavoidable (Class I).

Shore-based construction activities may lead to runoff or sedimentation from stormwater or other discharges. Sedimentation could bury marine habitats, turbidity can reduce light penetration and affect primary productivity and affect other water quality parameters such as dissolved oxygen levels, while runoff can transport toxic pollutants from surfaces, such as vehicle parking or construction staging areas. These stressors could degrade water column habitat, rocky intertidal and subtidal habitat, and affect surfgrass and kelp canopy habitats, both of which are considered EFH HAPC, in addition to black abalone critical habitat. Impacts related to runoff and effects on water quality are discussed in Section 4.11, *Hydrology and Water Quality*, under Impact HWQ-1. Additionally Impact HWQ-3 discusses impacts related to degradation of marine water quality.

Water Management Activity

Impacts associated with brine and wastewater discharge from water management activities are discussed under Impact MBIO-1, and as discussed, impacts from brine and wastewater discharge in Diablo Cove during decreased OTC flows would be less than significant (Class III). Also discussed under Impact MBIO-1, impacts to water quality from the reduction and cessation of flows within the Intake Cove would be less than significant (Class III).

Phase 2

Discharge Structure Removal and Restoration Activity

Discharge Structure removal and restoration activities are anticipated to extend into Phase 2 and conclude in 2033. Impacts associated with this activity are discussed under Phase 1 and are expected to be similar in Phase 2, and would be mitigated to the extent feasible through implementation of MM MBIO-3 (*Water Quality Monitoring Plan*), MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*), and MM MBIO-7 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan*). However, because of the uncertainty associated with the success of relocation of black abalone (MM MBIO-4), impacts would remain significant and unavoidable (Class I).

Intake Structure Closure Activity

Construction activities associated with closing the Intake Structure are anticipated to occur from on top of the Intake Structure with no in-water equipment. Shore-based construction may lead to runoff or sedimentation from stormwater or other discharges. Sedimentation could bury marine habitats, turbidity can reduce light penetration and affect primary productivity and affect other water quality parameters such as dissolved oxygen levels, while runoff can transport toxic pollutants from surfaces, such as vehicle parking or construction staging areas. These stressors could degrade water column habitat, rocky intertidal and subtidal habitat, and affect eelgrass and kelp canopy habitats, both of which are considered EFH HAPC, in addition to black abalone critical habitat. As part of the Proposed Project, PG&E would prepare a site-specific Stormwater Pollution Prevention Plan (SWPPP) that identifies potential pollutant sources vulnerable to

rainwater events along the coastal bluffs, including pathways that lead to the intertidal zone and ocean, and identify a series of BMPs to ensure adequate prevention of slope erosion and silt and sedimentation impacts to adjacent intertidal areas (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*). Additionally, construction equipment would be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present (AC BIO-4, *Site Maintenance and General Operations*).

In addition, some seafloor disturbance may occur when installing the bulkheads which may increase turbidity in adjacent receiving waters. As discussed for the waste transportation activity, implementation of MM MBIO-3 (*Water Quality Monitoring Plan*) would require PG&E to update the Turbidity Monitoring Plan to include monitoring for turbidity and other water quality parameters such as dissolved oxygen to ensure that Project-related activities were not contributing to conditions that could degrade sensitive marine habitats. If water quality monitoring detected persistent and elevated levels of turbidity, BMPs would be implemented to avoid turbidity impacts to receiving waters and adjacent habitats. As such, potential impacts from closing the Intake Structure to receiving waters would be reduced to a less-than-significant level (Class II). Impacts associated with brine and wastewater discharge from water management activities are discussed under Impact MBIO-1, and as discussed, impacts from brine and wastewater discharge during cessations of OTC flows would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Shore-based activities may lead to runoff or sedimentation from stormwater or other discharges. Sedimentation could bury marine habitats, turbidity could reduce light penetration and affect primary productivity and affect other water quality parameters such as dissolved oxygen levels, while runoff could transport toxic pollutants from surfaces, such as vehicle parking or construction staging areas. These stressors could degrade water column habitat, rocky intertidal and subtidal habitat, and affect surfgrass and kelp canopy habitats, both of which are considered EFH HAPC, in addition to black abalone critical habitat. The degradation of these habitats would be considered a significant impact.

As part of the Proposed Project, PG&E would prepare a site-specific SWPPP that identifies potential pollutant sources vulnerable to rainwater events along the coastal bluffs, including pathways that lead to the intertidal zone and ocean, and identify a series of BMPs to ensure adequate prevention of slope erosion and silt and sedimentation impacts to adjacent intertidal areas (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*). Additionally, construction equipment would be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present (AC BIO-4, *Site Maintenance and General Operations*). As such, impacts would be less than significant (Class III).

Future Actions. Construction of Marina improvements are anticipated to occur on top of the Intake Structure or upland with no in-water construction. Similar to the Discharge Structure removal activities, shore-based construction activities may lead to runoff or sedimentation from stormwater or other discharges. Sedimentation could bury marine habitats, turbidity could reduce light penetration and affect primary productivity and affect other water quality

parameters such as dissolved oxygen levels, while runoff could transport toxic pollutants from surfaces, such as vehicle parking or construction staging areas. These stressors could degrade water column habitat, rocky intertidal and subtidal habitat, and affect surfgrass and kelp canopy habitats, both of which are considered EFH HAPC, in addition to black abalone critical habitat. The degradation of these habitats is considered a significant impact.

As part of the Proposed Project, PG&E would prepare a site-specific SWPPP that identifies potential pollutant sources vulnerable to rainwater events along the coastal bluffs, including pathways that lead to the intertidal zone and ocean, and identify a series of BMPs to ensure adequate prevention of slope erosion and silt and sedimentation impacts to adjacent intertidal areas (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*). Additionally, construction equipment would be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present (AC BIO-4, *Site Maintenance and General Operations*). As such, impacts would be less than significant (Class III).

Another potential impact to marine biological resources would be from operational activities and could include potential fuel or oil spills, as well as stormwater runoff. These stressors could degrade water column habitat, rocky intertidal and subtidal habitat, and affect surfgrass and kelp canopy habitats, both of which are considered EFH HAPC, in addition to black abalone critical habitat. The degradation of these habitats is considered a significant impact; however, implementation MM HWQ-3 (*Clean Marina Lease Provisions*) would require PG&E to include a Clean Marina provision in any future lease for the Marina's use with reporting and enforcement criteria and would reduce impacts to a less than significant level (Class II).

Mitigation Measures for Impact MBIO-4.

MBIO-3 Water Quality Monitoring Plan

MBIO-4 Cofferdam Installation and Dewatering Plan

MBIO-7 Marine Mammal and Sea Turtle Mitigation and Monitoring Plan

MBIO-8 Oil Spill Response Plan

HWQ-3 Clean Marina Lease Provisions. See Section 4.11.

Residual Impacts. Due to the uncertainty associated with the success of relocation of black abalone (MMs MBIO-4), impacts associated with Discharge Structure removal and restoration activities in Phases 1 and 2 of the Proposed Project and the potential to release pollutants into receiving water would remain significant and unavoidable (Class I).

Impact MBIO-5: Introduce invasive non-native marine species during decontamination and dismantlement activities (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

Waste Transportation Activity

Potential impacts from waste transportation activities include increased vessel activity that may introduce NAS. Many invasive NAS are introduced by boat traffic, either as encrusting organisms

on the hulls and other submerged parts of vessels, or when ballast water is discharged from vessels. The introduction of NAS is a significant impact and can result in displacement of native fauna and flora, altering native habitats and ecosystem function, and dramatic changes in community structure.

Ports and harbors and adjacent areas are typically vulnerable to NAS, as the bulk of marine traffic is concentrated in these areas. It is not certain where barges and vessels used for the Proposed Project would originate, but if NAS are resident within the harbor facility, NAS could be transported from the harbor facility to the waste disposal location and the DCPP area during the transit to and from the port facility. The transfer of NAS from the waste disposal location or DCPP area is less likely as the vessels are not expected to remain within the DCPP area or disposal location for a sufficient length of time for NAS to establish on the hulls. In addition, ballast water discharge and recharge are strictly controlled within major harbors and waterways for large vessels, and therefore this vector is also an unlikely source for NAS transfer from the harbor, waste disposal locations, or DCPP area. While unlikely, the transfer of NAS between potential harbor facilities, waste disposal locations, and the DCPP area would be a significant impact; however, with the inclusion of MM MBIO-10 (*Non-Native Aquatic Species Measures*), the impact would be less than significant (Class II).

MM MBIO-10 (*Non-Native Aquatic Species Measures*) requires PG&E to verify that all Project vessels originate from a local harbor or port, or have underwater surfaces cleaned before entering southern or central California prior to transiting to the DCPP area or disposal locations, as well as comply with applicable CSLC regulations or standards including Ballast Water Management Regulations, Biofouling Management Requirements, and/or Ballast Water Discharge Performance Standards.

Discharge Structure Removal and Restoration Activity

The Discharge Structure Removal and Restoration Activity also includes increased vessel traffic which could increase the potential for introduction of NAS. As discussed for the waste transportation activities, inclusion of MM MBIO-10 (*Non-Native Aquatic Species Measures*) would reduce impacts from increased vessel traffic on NAS to less than significant (Class II).

Another element of the Discharge Structure removal and restoration activity includes the direct impact to intertidal and subtidal benthic habitat during cofferdam installation, dewatering, and Discharge Structure removal. A potential concern from bottom disturbing activities is the spread or infestation of *Caulerpa*, a group of green algae that are not native to California. Infestations from two *Caulerpa* species, *C. taxifolia* and *C. prolifera*, have been detected in California, and both species can rapidly colonize new areas from small fragments and have the potential to cause substantial negative impacts on native ecosystems. In order to detect existing infestations, as well as avoid the spread of these invasive species within other systems, the *Caulerpa* Control Protocol includes provisions for California nearshore coastal and enclosed bays, estuaries, and harbors from Morro Bay to the US/Mexican border that outlines the certification, survey, and reporting guidelines required when surveying for all *Caulerpa* species (NMFS, 2021). If *Caulerpa* were present within the Discharge Structure Removal footprint, impacts would be considered significant and construction would be prohibited; however, with implementation of MM

MBIO-11 (*Pre-Construction* Caulerpa *Survey*) impacts would be reduced to less than significant (Class II).

MM MBIO-10 (*Non-Native Aquatic Species Measures*) requires PG&E to verify that all Project vessels originate from a local harbor or port, or have underwater surfaces cleaned before entering southern or central California prior to transiting to the DCPP area or disposal locations, as well as comply with applicable CSLC regulations or standards including Ballast Water Management Regulations, Biofouling Management Requirements, and/or Ballast Water Discharge Performance Standards. MM MBIO-11 (*Pre-Construction* Caulerpa *Survey*) requires PG&E to conduct a pre-construction survey for *Caulerpa* in accordance with the *Caulerpa* Control Protocols (NMFS, 2021) prior to initiation of any authorized bottom disturbing activity, and to submit findings to the NOAA Fisheries/CDFW within 15 calendar days of completion of survey.

Water Management Activity

No actions associated with the water management activities are expected to introduce NAS, therefore no impact would occur.

Phase 2

Discharge Structure Removal and Restoration Activity

Discharge Structure removal and restoration activities are anticipated to extend into Phase 2 and conclude in 2033. Impacts associated with this activity are discussed under Phase 1 and are expected to be similar in Phase 2, and would be mitigated through implementation of MM MBIO-10 (*Non-Native Aquatic Species Measures*) and MM MBIO-11 (*Pre-Construction* Caulerpa *Survey*) resulting in a less-than-significant impact (Class II).

Intake Structure Closure Activity

No vessels or other in-water equipment would be used during the Intake Structure Closure Activity; however, potential bottom disturbance could occur with installation of the bulkheads. Similar to the Discharge Structure Removal Activity, there is concern about the spread or infestation of *Caulerpa*. No *Caulerpa* was detected during a recent survey in front of the Intake Structure (PG&E, 2021a); however, in order to detect existing infestations, as well as, avoid the spread of these invasive species within other systems, the *Caulerpa* Control Protocol (NMFS, 2021) includes provisions for California nearshore coastal and enclosed bays, estuaries, and harbors from Morro Bay to the US/Mexican border that outlines the certification, survey, and reporting guidelines required when surveying for all *Caulerpa* species. If *Caulerpa* were present within the Intake Structure construction footprint, impacts would be considered significant; however, with implementation of MM MBIO-11 (*Pre-Construction* Caulerpa *Survey*) impacts would be reduced to less than significant (Class II).

MM MBIO-11 (*Pre-Construction* Caulerpa *Survey*) requires the Applicant or their designee to conduct a pre-construction survey for *Caulerpa* in accordance with the *Caulerpa* Control Protocols (NMFS, 2021) prior to initiation of any authorized bottom disturbing activity, and to submit findings to the NOAA Fisheries/CDFW within 15 calendar days of completion of survey.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Since no in-water operations are anticipated, no impacts from NAS would be expected.

Future Actions. Installation of mooring buoys, as well as future operational activities, could potentially introduce NAS from vessel activities. This is unlikely to occur since it is assumed that any commercial vessel used for mooring installation would originate from a local harbor, and most small vessels do not have holds that could support NAS species, and since they are generally stored on trailers, any encrusting or attached species would perish due to desiccation. However, the introduction of NAS could degrade marine habitats and species and is considered a significant impact. Implementation of MM HWQ-3 (*Clean Marina Lease Provisions*) would require PG&E to include a Clean Marina provision in any future lease for the Marina's use and would reduce impacts to a less-than-significant level (Class II).

Mitigation Measures for Impact MBIO-5.

MBIO-10 **Non-Native Aquatic Species Measures.** To prevent the introduction of Non-Native Aquatic Species (NAS), during Phase 1 and prior to issuance of permits for in-water construction requiring vessels or other floating platforms (e.g., barges), the Applicant or its designee shall verify that all Project vessels: (1) Originate from a local harbor or port, or have underwater surfaces cleaned before entering southern or central California and immediately prior to transiting to the DCPP area or disposal locations; and (2) Comply with applicable CSLC regulations or standards including Ballast Water Management Regulations, Biofouling Management Requirements, and/or Ballast Water Discharge Performance Standards, including reporting procedures. Documentation shall be submitted to the County and CSLC at least 30 calendar days prior to start of construction.

MBIO-11 **Pre-Construction *Caulerpa* Survey.** During Phase 1 and Phase 2, and prior to initiation of any authorized bottom disturbing activity, the Applicant or its designee shall conduct a pre-construction survey for *Caulerpa* in accordance with the *Caulerpa* Control Protocols (NMFS, 2021). The survey shall be conducted by a certified surveyor at a Surveillance Level of the Project area to determine the presence or absence of *Caulerpa*. Survey work shall be completed not earlier than 90 days prior to the bottom disturbing activity and not later than 30 days prior to the bottom disturbing activity and shall be completed, to the extent feasible, during the high growth period of March 1 – October 31. Survey findings shall be submitted to the County, NOAA Fisheries, and CDFW within 15 calendar days of completion of survey. If *Caulerpa* is found, then the NOAA Fisheries/CDFW Contacts shall be notified within 24 hours of the discovery. Within seven days of notification, NOAA Fisheries and CDFW will coordinate with the Southern California *Caulerpa* Action Team (SCCAT) and relevant permitting and resource agencies (and project proponent, as warranted) to fully document the extent of the *Caulerpa* infestation within the Project area. *Caulerpa* eradication activities, which are subject to review and approval by NOAA Fisheries and CDFW, in coor-

dination with the SCCAT and relevant permitting and resource agencies, shall be undertaken using the best available technologies at the time and will depend upon the specific circumstances of the infestation.

HWQ-3 Clean Marina Lease Provisions. See Section 4.11.

4.4.5 Cumulative Impact Analysis

Geographic Extent Context

For marine biological resources, of the reasonably foreseeable projects noted in Table 3-1, eight include offshore projects that may not fall within the general geographic area of DCPP; however, Project-activities include the use of ocean-going vessels and support equipment that may utilize both nearshore and offshore transportation corridors to/from DCPP, local/regional harbors, as well as potential disposal locations in Oregon. The offshore projects considered for potential cumulative impacts related to marine biological resources include:

- Vandenberg Offshore Wind Energy Projects (#18)
- South Ellwood Project (#19)
- Rincon Onshore and Offshore Facilities (#20)
- Chumash Heritage Marine Sanctuary Project (#21)
- Morro Bay Wind Energy Area (#22)
- Humboldt Wind Energy Area (#23)
- PacWave South Project (#24)
- Port San Luis Breakwater Repair (#25)

Four projects (#18, 22, 23, and 24) are offshore wind or wave energy projects ranging from Newport, Oregon to Point Arguello, California, while three projects are nearshore marine construction projects located in Ventura, California (#20); Goleta, California (#19); and Port San Luis, California (#25) (see Table 3-1). One project (#21) is the designation of a National Marine Sanctuary along the central coast of California from Cambria to Santa Barbara.

Cumulative Impact Analysis

Phase 1

Project # 19 and #25 are expected to be completed by 2023 and therefore, Phase 1 Project-related activities would not contribute to cumulative impacts since Phase 1 is anticipated to occur from 2024 to 2031. While most of the wind or wave energy projects are currently in the planning phase, it may be possible that some or all could be implemented during Phase 1 decommissioning activities. It is assumed that installation of the wave or wind farms would include anchoring structures offshore and running cable from the structure to a shore-based facility. It is also assumed that the cable would be exposed in deeper waters but trenched and buried in nearshore waters.

If DCPP decommissioning activities overlapped with installation of the wind or energy farms there could potentially be greater vessel traffic and construction in offshore and nearshore waters that may lead to an increased likelihood of collisions with other vessels or equipment, marine

mammals and sea turtles, oil or fuel spills, as well as increased underwater noise associated with increased vessel traffic.

The frequency of barge trips associated with the waste transportation activities is estimated to be 28 roundtrips or loading cycles (55 barges) over three years (2030-2033) between DCPP and Oregon. More localized barge trips are associated with the Discharge Structure removal activities, which are estimated to take 14 months and require approximately 15 barge trips to transport fill material from Port of Long Beach and potentially several additional trips to transport equipment to/from DCPP, as well as 3 barge trips to transport 1-ton and ¼-ton rocks from Santa Catalina Island to backfill the void created following removal of the Discharge Structure. Given the relatively large area (i.e., nearshore and offshore waters from southern California to Oregon) and infrequent number of Project-related vessel operations over an extended, multi-year period, even if barge trips were to occur at the same time as the potential wind or wave energy projects, the Project's potential contribution to cumulative impacts on marine biological resources would not be cumulatively considerable.

Phase 2

Discharge Structure Removal and Restoration Activity

Discharge Structure removal and restoration activities are anticipated to extend into Phase 2 and conclude in 2033. Impacts associated with this activity are discussed under Phase 1 and are expected to be similar in Phase 2, and no cumulative impacts are expected on marine biological resources even if the one wind farm project that is closest to DCPP (#22) was to be implemented since it is located offshore of Morro Bay, California and therefore are too far away given the infrequent number of Project-related vessel operations over an extended period to result in any cumulative impacts.

Intake Structure Closure Activity

Construction activities associated with closing the Intake Structure are anticipated to occur from on top of the Intake Structure with no in-water equipment. Since no in-water operations are anticipated, the Intake Structure closure activities contribution to cumulative impacts on marine biological resources would not be cumulatively considerable.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Building. Since no in-water operations are anticipated, the New Facility Operations activities contribution to cumulative impacts on marine biological resources would not be cumulatively considerable.

Future Actions. Marina improvements for reuse are anticipated to occur on top of the Intake Structure or upland. The exceptions include the installation of up to five mooring buoys in the Marina, and future Marina operations that would result in an increase in small vessel use (i.e., vessels that could be launched using the boat hoist). Given the small area affected and infrequent number of vessel operations over an extended period, future actions contributions to cumulative impacts on marine biological resources would not be cumulatively considerable

4.4.6 Summary of Significance Findings

Table 4.4-23 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project.

Table 4.4-23. Summary of Impacts and Mitigation Measures – Biological Resources – Marine

	Impact Significance Class				
	Phase 1		Phase 2	Post-Decom	
Impact Statement	***DCPP***	***PBR/SB***	***DCPP***	***Ops/Marina***	**Mitigation Measures**
MBIO-1: Destroy or degrade marine habitat(s) during decontamination and dismantlement activities including habitat of state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat	I	NI/NI	I	NI/II	**MBIO-1:** Eelgrass Monitoring Plan **MBIO-2:** Marine Safety and Anchoring Plan **MBIO-3:** Water Quality Monitoring Plan **MBIO-4:** Cofferdam Installation and Dewatering Plan **MBIO-5:** Preconstruction Survey for Black Abalone **MBIO-6:** Marine Habitat Restoration and Monitoring Plan **MBIO-7:** Marine Mammal and Sea Turtle Mitigation and Monitoring Plan **MBIO-8:** Oil Spill Response Plan **MBIO-9:** Mooring Placement Habitat Survey
MBIO-2: Harm or disturb marine special-status invertebrate, fish, reptile, bird, or mammal	I	NI/NI	I	NI/III	**MBIO-5** and **MBIO-7**(see above)
MBIO-3: Generate noise or vibration levels above or below the water surface that could result in disturbance or injury to marine life	II	NI/NI	II	NI/III	**MBIO-7** (see above)
MBIO-4: Release pollutants into receiving water during decommissioning activities	I	NI/NI	I	III/II	**MBIO-3**, **MBIO-4, MBIO-7** and **MBIO-8** (see above) **HWQ-3:** Clean Marina Lease Provisions
MBIO-5: Introduce invasive non-native marine species during decontamination and dismantlement activities	II	NI/NI	II	NI/II	**MBIO-10:** Non-Native Aquatic Species Measures **MBIO-11:** Pre-Construction *Caulerpa* Survey **HWQ-3** (see above)
Cumulative Impact	Not cumulatively considerable		Not cumulatively considerable		None required

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

4.5 Cultural Resources – Archaeology and Built Environment

This section provides information on existing cultural resources in and surrounding the Project areas. The California Environmental Quality Act (CEQA requires that the effects of discretionary projects on cultural resources be considered in the planning process. This section evaluates the Proposed Project's potential impacts to these resources. Tribal Cultural Resources are separately addressed in Section 4.6, *Tribal Cultural Resources* (TRCs). TCRs are a defined class of resources under state law, which include sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a Tribe.

Cultural resources can reflect the history, diversity, and culture of the region, as well as the people who created them. Cultural resources are unique in that they are often the only remaining evidence of human activity that occurred in the past. Cultural resources can be natural or built, purposeful or accidental, physical, or intangible. They encompass archaeological, traditional, and built environment resources, including but not necessarily limited to buildings, structures, objects, districts, and sites. Cultural resources include locations where important events occurred, traditional cultural places, sacred sites, and places associated with important people.

The following discussion is based on the confidential cultural resources technical reports prepared for PG&E for the Proposed Project which are the *Diablo Canyon Decommissioning Cultural Resource Inventory and Study Plan* (PG&E, 2020), *Cultural Resources Constraints Analysis for the Santa Maria Railyards, Santa Maria, Santa Barbara County, California* (PG&E, 2021), and the *Diablo Canyon Power Plant Decommissioning Project Historic Built Environment Evaluation Report* (Page & Turnbull, 2022; EIR Appendix F), unless otherwise referenced.

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and considered in preparing this section:

- Evaluate the cultural resource sites including sites numbered CA-SLO-81 and -832.
- Ensure robust review of cultural resource impacts and necessary mitigation measures; and
- Identify cultural resources and impacts within the proximity of Pismo Beach rail yard.

4.5.1 Environmental Setting

4.5.1.1 Definitions of Cultural Resources

A **cultural resource** is defined as any object or specific location of past human activity, occupation, or use, identifiable through historical documentation, inventory, or oral evidence. Cultural resources can be separated into three categories: archaeological, built environment, and tribal cultural resources.

Archaeological resources include both historic era and prehistoric remains of past human activity. Historic era resources can consist of structural remnants (e.g., cement foundations), historic era objects (e.g., bottles and cans), and sites (e.g., refuse deposits or scatters). Prehistoric

resources can include lithic scatters, ceramic scatters, quarries, habitation sites, temporary camps/rock rings, ceremonial sites, and trails.

Built environment resources consist of standing historic era buildings and structures, the latter of which includes canals, roads, trails, bridges, ditches, and cemeteries.

Pursuant to State CEQA Guidelines Section 15064.5, **historical resource** is a term used to define a prehistoric or historic aged resource that is recommended eligible, determined eligible, or listed on the California Register of Historical Resources (CRHR). Any resource that is determined eligible or listed on the National Register of Historic Places (NRHP) is automatically eligible for listing in the CRHR and is considered a significant resource for the purpose of this analysis.

A **unique archaeological resource,** as defined by CEQA Section 21083.2 (g), is a resource that, besides merely adding to the current body of knowledge, meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

4.5.1.2 Precontact Setting

The chronology of the California's central coast is generally broken up into six prehistoric time periods: Paleo-Indian Period, Millingstone/Lower Archaic, Early Period, Middle Period, Middle-Late Transitional Period, and Late Period. Each period is briefly described below to provide a general prehistoric context of the Project area. This combines information from the Pecho Coast with the general patterns of prehistoric occupation throughout the Central Coast. Time is presented in calibrated years before present (cal B.P.).

Paleo-Indian/Paleo-Coastal Period (pre-10,300 cal B.P.)

Conventional theories concerning the Paleo-Indian period place the earliest human occupations in the region prior to 10,000 years ago. Identification of Paleo-Indian sites throughout North America are identified by the presence of large fluted projectile points, like the Clovis point. Other such sites have contained crescents, large bifaces used as tools, flake and blade cores, as well as distinctive assemblages of small flake tools. However, on the California Central Coast, only three isolated fluted points have been recovered from Santa Barbara and San Luis Obispo County. Recently, new discoveries along the mainland coast have shown additional evidence of Paleo-Indian occupation. Sites in Santa Barbara, Vandenberg Air Force Base, San Miguel and Santa Rosa Islands, have been found, through radiocarbon dating, as well as unique artifact assemblages, to reflect an early culture similar to those found at Paleo-Indian sites in Northern Alaska/Beringia. Fluted points have not been encountered at these sites nor have any other notable artifacts that are typically associated with Paleo-Indian occupation, however, Crescent and Amol stemmed points were found that date to the terminal Pleistocene period (11,700 ca B.P.).

Millingstone/Lower Archaic Period (10,300-5,700 cal B.P.)

The Pecho Coast sites that are the best documented date to the Millingstone/Lower Archaic Period. These sites include artifacts similar to coastal southern California sites, comprised of numerous choppers, handstones, milling slabs, core hammers, and scraper planes used to process plant foods. Projectile points are rare and include large side-notched and contracting-stemmed dart sized points. These assemblages reflect the pursuit and processing of small and large game as well as processing terrestrial vegetation. Fish were most likely caught and consumed; however, no obvious fishing implements appear to be present in the artifact assemblages recovered. Instead, pitted stones are abundant and were possibly utilized for processing shellfish. It is theorized that shoreline sites were used as short-term camps, whereas inland sites were used as specialized residential sites where incoming terrestrial and marine fauna were processed and plant sources collected.

Early Period (5,700-2,250 cal B.P)

Around 5,700 cal B.P., an important adaptive transition occurred along the Central Coast. This adaptive transition occurred through the technological changes in hunting implements and plant processing tools. In the artifact assemblages recovered from these sites, there is an abundance of contracting-stemmed, Rossi square stemmed, large side-notched, and other large sized projectile points. These start to diminish in the archaeological record after the first 700 years of the Early Period and disappear circa 5,000 cal B.P. Manos and milling slabs were gradually being replaced with mortars and pestles suggesting a dietary expansion to include acorns. Trade increases through the region are indicated by the presence of shell beads and obsidian materials. Early Period sites along the Central Coast increase in number suggesting population growth. Residential sites appear to be more settled, but still seasonal in nature. As far as hunting is concerned, evidence from the faunal record indicates a greater reliance developed on coastal/ marine fauna along with a slight decrease in reliance on terrestrial fauna.

Middle Period (2,550-950 cal B.P.)

The Middle Period marks a time of remarkably more complex prehistoric technology and economy. Tools reflecting forms of specialization in what is referred to as “resource exploitation” (i.e., hunting and gathering), were adopted. These tools included fishing implements such as shellfish hooks, bone gorges, and grooved stones that could have been used as in-line sinkers in tandem with shellfish hooks or as net weights. Contracting-stemmed projectile points continued to dominate Pecho Coast sites. The wooden plank canoe, otherwise referred to as a tomol, came into use after 1,500 cal B.P. However, there has not been recent archaeological evidence that tomols were utilized or adopted by peoples of the Santa Barbara Channel region, north of Point Conception. Due to the abundant findings of mortars and pestles versus manos and milling stones, it can be inferred that during this period a reliance on harder seeds such as acorns occurred. Economically, trade and contact with other groups appears to increase. This is evident through the increase of shell beads found in the form of Olivella saucers. It is speculated that they came from production centers on the northern Channel Islands. There is also an increase in obsidian sourced from the Eastern Sierra Nevada Region (i.e., the Coso and Casa Diablo volcanic fields).

Middle-Late Transitional Period (950-700 cal B.P.)

Political complexity, the development of social ranking, and the development of craft specialization began to emerge along the Santa Barbara Channel during the Middle-Late Transitional Period. Artifact assemblages diverge at this point where arrow points (used for bow and arrow technology) appear, and most stemmed points disappear. Milling tools are almost absent and limited to a single pestle. Fishing tools are also present in the form of fishhooks, fishhook blanks, bone gorges, and notched stones. The faunal record indicates terrestrial mammals making up the bulk of the native peoples' diet. Fishing and gathering of shellfish continue today. The higher reliance on hunting of terrestrial mammals could possibly be attributed to the seasonal nature of habitation (i.e., seasonal hunting camps). Environmental change is another possible explanation of the temporary nature of coastal hunting camps. Warmer temperatures and drier conditions occurred possibly creating a decline in access to marine resources. Increased interaction with groups along the Santa Barbara Coast as well as the northern Channel Islands can be seen in the increase in the number of Olivella shell beads. Trade in Eastern Sierra obsidian appears to drop, but only in the Santa Barbara region. The Pecho Coast sites appear to have an increase in obsidian artifacts.

Late Period (700-180 cal B.P.)

During the Late Period, it appears that more sites were occupied than ever before. Central Coast people used a range of subsistence strategies depending on the local available ecology. On the Pecho Coast, a site known as the ethnographic village of Tstyiwi, shows evidence of long-term residential occupation. Artifact assemblages include mostly small projectile points such as Desert side-notched points as well as Coastal Cottonwood style points. Mortars and pestles are the primary plant processing tools found at these sites. Olivella and steatite beads are also present. Shell fishhooks and end-notched stone weights are found as well. Faunal assemblages see another increase in terrestrial mammals. Sea mammal hunting, fishing, and shellfish gathering make up the rest of the subsistence efforts.

Historic/Postcontact Period (180 cal B.P.-130 cal B.P.)

Spanish occupation in the area began in 1769, and the establishment of Spanish missions in the San Luis Obispo area greatly disrupted the native social, economic, and political organization. Archaeological evidence indicates the native population of the Pecho Coast was rapidly decimated by missionization. As Spanish settlers conscripted Chumash people to live and work at the missions, they also moved into native territories, limited Native Californians' access to historic foraging areas, introduced new European domestic plants and animals which disrupted the local ecology, and exposed the Native Californians to European diseases to which native populations had limited resistance, substantially reducing their population.

There is evidence of this period in the cultural assemblage at CA-SLO-51/H, part of the Chumash village Tstyiwi, which includes both shell beads and glass trade beads, a large variety of stone tools, and a high density of artifacts in general, distinguishing this assemblage from the prehistoric assemblages elsewhere in the site. Overall, the Postcontact period component of the site reflects a small, year-round population with a smaller foraging range that was exploited more intensively. There is an increased focus on marine resources, especially on shoreline fishing, and

a reduced focus on both deeper ocean fishing and terrestrial mammals, although some domestic cattle are observed in the food record during this time as well. This reflects a shrinking resource area that was available to the Chumash at this time, as well as a reduced overall population and a lack of travel for foraging purposes, all of which were responses to Spanish encroachment on their historic territory.

4.5.1.3 Ethnographic Setting

The earliest residents to the DCPP site and the Pecho Coast are the Northern Chumash. Santa Maria Valley Railyard – Osburn Yard and the Santa Maria Valley Railyard – Betteravia Industrial Park areas of the Proposed Project are located within lands traditionally occupied by the Santa Ynez Band of Chumash Indians.

The Chumash were among the most populous and socially complex groups in all of what is now California. During the Late Period, the Chumash were living in large villages along the Santa Barbara Channel coast, with less dense populations in the interior regions; on the Channel Islands; and in coastal areas north of Point Conception. Some villages may have had as many as 1,000 inhabitants, and population density was unusually high for a non-agricultural group. Occupational specialization went beyond craft activities such as bead production to include politics, religion, and technology. Complex social and religious systems tied many villages together and regulated regional trade, procurement and redistribution of food and other resources, conflict, and other aspects of society. Leadership was hereditary, and some chiefs had influence over several villages, indicating a simple chiefdom level of social organization.

The Chumash were a non-agrarian culture that relied on fishing, hunting, and gathering for their sustenance. Much of their subsistence was based on marine resources, and acorns were also a major food staple. The Northern Chumash participated in long-range prehistoric trade networks. For example, they supplied the Yokuts with asphaltum and shells used in beadmaking, receiving in exchange pottery and possibly obsidian.

Although most Chumash eventually submitted to the Spanish and were incorporated into the mission system, some refused to give up their traditional existence and escaped into the interior regions of California as refugees living with other tribes. With the secularization of mission lands after 1834, traditional Chumash lands were distributed among grants to private owners. Only in the area of Mission Santa Barbara and Mission San Fernando Rey de España were several small ranchos granted to neophytes of these missions, providing a home and gardens for a few of these refugees. Most Chumash managed to maintain a presence in the area into the early twentieth century as cowboys, farm hands, and town laborers. The Catholic Church provided some land near Mission Santa Inés. This land eventually was deeded to the U.S. government in 1901 as the 127-acre Santa Ynez Reservation. Since the 1970s, Chumash descendants living in the City of Santa Barbara and the rural areas of San Luis Obispo, Santa Barbara, and Ventura Counties have formed social and political organizations to aid in cultural revitalization, to protect sacred areas and archaeological sites, and to petition for federal recognition. Today, the Santa Ynez Band of Chumash Indians is the only federally recognized Chumash tribe.

Due to the rich and vast history of the Pecho Coast being the ancestral home to the Chumash, the importance of preservation of the Project area and the sites known and unknown are of the utmost importance to their descendants.

4.5.1.4 Historic Setting

San Luis Obispo, 1772 to ca. 1970

Spanish explorers arrived in Mexico in the 16th century. In order to establish control over this new territory, they began using a system of missions and presidios to settle New Spain (present-day Mexico and Baja California). In 1768, King Carlos III decided to expand the mission program into Alta California (present-day California). Father Junipero Serra, a Catholic Priest, was sent to Alta California to build missions between 1769 and 1823. He began building missions in San Diego, working his way up the coast. In 1772, he founded Mission San Luis Obispo de Tolosa in San Luis Obispo. Twenty-one missions were ultimately established along California's coast.

After Mexico achieved independence from Spain in 1822, Alta California became part of the Mexican Republic. The Mexican government began issuing land grants and created a system of large agricultural estates or ranchos. In 1834, Mexican authorities asserted governmental authority over mission lands. Through secularization, the Mexican government took land from the missions and began redistributing it through private land grants. During the Mexican period, approximately 30 ranchos existed within San Luis Obispo County. Rancho San Miguelito encompassed the present DCPP site and was granted to Miguel Ávila in 1842.

The discovery of gold in the foothills of the Sierra Nevada in 1848 brought miners and entrepreneurs to California from all over the world. This mass migration created demand for goods and services, especially cattle, thus boosting economic development for California ranchos. In 1848, the United States and Mexico signed the Treaty of Hidalgo, ending the Mexican American War. The treaty transferred Mexican land rights in Texas, California, and New Mexico to the United States. In 1850, California became a state, and San Luis Obispo County was created as one of the state's original 27 counties. Much of the lands owned by Mission San Luis Obispo were divided into ranchos and redistributed to private owners. The City of San Luis Obispo, also serving as the County seat, was created from former mission land that was platted out into a town grid in 1874.

The economy of San Luis Obispo County in the late 19th century centered around ranching, farming, and vineyards, much of which took place on the ranchos. Wheat and barley were the most important agricultural crops in the region, while wool, flour, and dairy products were also important income producers. From 1862 to 1864, a severe drought struck San Luis Obispo County. As a result, many of the area's cattle ranches were sold, and the local agricultural industry began to shift toward dairy farming.

Until the late 19th century, San Luis Obispo County remained relatively isolated due to surrounding mountains that limited transportation on horseback, stagecoach, and wagon. Wharves constructed in San Luis Bay at Avila Beach in the 1850s and 1860s enabled goods to be transported via steamship. Further transportation improvements in the late 19th century led to increased development. In 1873, businessman John Harford established the San Luis Obispo Railroad Company and built a new wharf, Point Harford, at Point San Luis that was connected by a horse-drawn, narrow-gauge railroad to San Luis Obispo Creek. The railroad allowed the region's

farmers to ship their goods more easily from the port. By 1876, passenger and freight service were also offered by the Pacific Coast Steamship Company, which operated at approximately 20 California ports.

The expansion of rail service from northern and southern California through San Luis Obispo County enabled further growth. The Pacific Coast Railway was completed from Los Olivos in Santa Barbara County to San Luis Obispo in 1881. This was followed by the completion of the Southern Pacific Railway between San Francisco and Santa Margarita in San Luis Obispo County, just north of the City of San Luis Obispo, in 1886. The coming of the railroads spurred a period of speculative development in the late 1880s and attracted workers from diverse background – including Japanese, Italian, and Swiss men and women – to the area.

Numerous factors influenced the development of San Luis Obispo County in the first half of the 20th century. Interest in the railroads began to wane in the early 20th century as the popularity of the automobile increased. The California Polytechnic School (Cal Poly) opened in 1903 as a school for agricultural and vocational training. Located at the northern outskirts of the City of San Luis Obispo, the school became an important driver in the City's growth as its population swelled with students, particularly following World War I.

In 1915, the Pacific Coast Highway (State Route 1), the first state highway in California, was completed through San Luis Obispo County, bringing automobile tourism to the region.

While much of the County's economy continued to evolve around ranching and agriculture, oil drilling also became an important part of the economy of San Luis Obispo County in the early 20th century. Port San Luis subsequently developed into the largest oil shipping port in the world and employed hundreds of workers from the surrounding area.

The establishment of Camp San Luis Obispo also helped diversity the region's economy. The camp, founded in 1927 on the 2,000-acre Jack Ranch along State Route 1, was the first formal training camp for the California National Guard. The camp was renamed Camp Merriam in 1932. Many of the soldiers who trained at the camp settled in the area after they had completed their military service.

Given its agricultural and economic diversity, San Luis Obispo County was buffered from the worst effects of the Great Depression in the 1930s. Nevertheless, residential and commercial development was limited during this period. New Deal programs such as the Public Works Administration and Works Progress Administration funneled money to the construction of a new County courthouse, as well as local flood control and highway improvement projects, including the completion of State Route 1 between Morro Bay and Carmel.

The completion of more reliable highways and roads not only improved transportation for commuters and tourists but also benefited the local agricultural industry. Refrigerated trucks increasingly replaced railcars as the primary means of transporting fresh produce to markets, enhancing the vitality of the local produce industry and contributing to the decline of the railroads. Reflecting the increasing shift toward automobile transportation, the Pacific Coast Railway closed in 1936.

The entry of the United States into World War II brought San Luis Obispo County out of the Great Depression and boosted the region's economy. In the immediate lead up to the war, Camp Merriam was renamed back to Camp San Luis Obispo, and a county regional airport opened in 1939. Both were utilized by the federal government as part of the war effort. Camp San Luis Obispo was rapidly expanded to serve as the training base for multiple combat divisions deployed to Europe and the Pacific regions. Additional military facilities developed during the war included the Baywood Park Training Camp 13 miles northwest of San Luis Obispo and a rest camp for ill and wounded soldiers between Grover Beach and Pismo Beach. Employment opportunities at these military facilities attracted many former agricultural workers from the San Joaquin Valley and other farming areas to San Luis Obispo County.

After the war, the population of San Luis Obispo County expanded at a rapid pace, as returning veterans, many of whom had been stationed at one of the County's military bases decided to permanently settle in the area. Educational opportunities at Cal Poly also attracted veterans and their families to the area and contributed to the County's growth during the postwar period. As in many cities and counties across California, the postwar population boom resulted in a housing shortage. To meet the demand for new housing, large areas of farmland outside of existing cities and towns were developed into sprawling new subdivisions full of tract housing.

The completion of US Route 101 in 1958 boosted San Luis Obispo County's status as a popular tourist destination, thanks to its convenient location roughly halfway between Los Angeles and San Francisco. Motels and hotels sprang up along the highway in the 1950s and 1960s to cater to motor tourists. The construction of new commercial developments followed a similar trend. Across the County, new shopping centers, restaurants, and auto-oriented businesses were completed along the routes of highways and major new thoroughfares constructed in the new subdivisions at the outskirts of traditional urban centers.

Diablo Canyon Power Plant Site History

During the Mexican and Spanish periods, the site of the DCPP was part of Rancho San Miguelito, a 22,000-acre Mexican land grant comprised of former Mission San Luis Obispo lands. In 1842, the Mexican government granted Rancho San Miguelito to Miguel Ávila. Ávila was awarded an additional league of land (4,439 acres) in 1846 on the condition that a portion of his land along the coast remain open to the public in order to preserve access to San Luis Bay, which contained the area's only seaport. Ávila raised cattle on the land and made a living from the sale of cattle hides and tallow (animal fat). He built two houses on the rancho, one on the hill above San Luis Bay and a second near the shore. After the Mexican-American War, Ávila was elected *alcalde* (mayor) of San Luis Obispo; however, he resigned after only a year of service, due to the difficulty of traveling to town from his rancho. After the deaths of Ávila and his wife, the Rancho San Miguelito was divided between the couple's surviving children. Their son, Juan Vidal Ávila, inherited the largest portion of the former rancho. In 1867, Juan Ávila participated in the subdivision and sale of lots in the town of Avila Beach, named after his father. After some initial successes, Ávila's fortunes began to decline, forcing him to mortgage and gradually sell off the land he had inherited from his parents piece by piece. He sold off the last of his land holdings by the 1920s and died in 1930.

In 1882, Juan Ávila sold 6,000 acres of the former Rancho San Miguelito to Italian immigrant, rancher, and entrepreneur Luigi Marre. Marre used the lands to raise cattle for beef. After Marre's death in 1903, his property passed to his sons, Louie and Gaspar. Like their father, they continued to raise beef cattle on the ranch lands near Avila Beach. Around 1930, the brothers constructed a Spanish Colonial Revival duplex, designed by regional architect Louis Noire Crawford, on the hill overlooking San Luis Bay. During World War II, the Marre Ranch was used by US Armed Forces, including the Coast Guard and Army, who were stationed at Camp San Luis Obispo.

The Marre family continued to use the land for cattle ranching after the war until the mid-1960s, when they began to look to diversify their activities. The family demolished the remaining ranch buildings on the north side of San Luis Creek below the Marre house and built the Avila Beach Golf Course and San Luis Inn in their place. In order to raise money for the project, the Marre family began leasing off portions of its ranch lands.

Meanwhile, PG&E was in search of a site for a new nuclear power plant in the San Luis Obispo area. Having received opposition from the Sierra Club and other local conservationists to their first planned site at Nipomo Dunes, PG&E proposed a coastal site at Diablo Canyon as an alternative. In spite of substantial opposition from the Sierra Club's membership, including executive director David Brower, the club's board of directors voted to endorse PG&E's plan to site its nuclear plant at Diablo Canyon in June 1966. Plans to build the plant progressed rapidly following the Sierra Club's vote.

In September 1966, PG&E agreed to lease more than 1,000 acres of the Marre Ranch from the Marre Land and Cattle Company for its new nuclear power plant. The lease included 585 acres for the plant site, 420 acres for transmission lines, and an additional 50 acres for a road to the plant. In November 1966, PG&E announced that the contract to provide the nuclear reactors, turbine-generator, nuclear fuel, and other plant components for its new $150-million plant had been awarded to Westinghouse Electric Corporation. Shortly afterward, PG&E submitted an application to the California Public Utilities Commission (CPUC) for permission to construct a 1,060,000-kilowatt (1,060 megawatts) nuclear reactor at Diablo Canyon; a formal application for a permit to build the single reactor and plant was submitted to the federal Atomic Energy Commission (AEC) nearly one month later in January 1967.

The applications to the CPUC and AEC launched 20 days of public hearings with the CPUC in the spring of 1967. At hearings in both San Luis Obispo County and San Francisco, members of the public, including Sierra Club member and leader of the Scenic Shoreline Preservation Conference Fred Eissler, expressed concerns about the preservation of California's coastal lands and the environmental impacts of the nuclear plant. Despite this opposition, the CPUC unanimously approved plans for the Diablo Canyon plant in November 1967, citing public need and testimony that the proposed plant posed no threat to animal or human life. At the time, PG&E anticipated that the plant would be operational and supplying power to Kern, Santa Barbara, San Luis Obispo, Kings, and Tulare counties by the spring of 1972.

On April 23, 1968, the AEC's Atomic Safety and Licensing Board authorized PG&E's plans for the Diablo Canyon plant and granted a construction permit for the project. Some preparation had already begun in anticipation of the AEC's approval. By February 1968, a new bridge that was

strong enough to carry the heavy industrial equipment for the plant had already been completed between Avila Beach and Port San Luis. In June, construction started on a new access road (Diablo Canyon Road) from Avila, stretching just east of and along the coastline to the plant site. Excavation work at the plant site began in August 1968 and continued into 1969.

In March 1969, the CPUC authorized an application from PG&E to construct a second rector unit at the Diablo Canyon plant. Unit 1 was expected to be in operation in early 1973, while the Unit 2 was expected to go online in mid-1974. By May 1969, construction began on the first buildings on the site for Unit 1. A concrete batch plant at the south end of the planned campus, used to produce concrete to construct various buildings and structures of the plant, was one of the first buildings completed. This enabled construction to begin on the plant's core buildings. A large warehouse for equipment storage followed shortly after. By the end of 1969, construction of the Unit 1 Containment Building and portions of the Turbine Building and Auxiliary Building associated with the Unit 1 reactor were underway.

From 1969 through much of 1971, progress on the DCPP focused primarily on completing the main buildings and infrastructure necessary for the operation of Unit 1. At the same time, structural work on the underground concrete cooling water discharge and intake tunnels began in fall 1969. Transmission lines to relay power generated by the turbines to the power grid were erected in June 1970.

The first components of the nuclear reactors started to arrive on site in the summer of 1970. Beginning their journey at Westinghouse's factories on the East Coast, the reactor components were shipped by barge through the Panama Canal to Port San Luis. To prepare for their arrival, a new barge landing was constructed at Port San Luis near Avila Beach. The four steam generators for the Unit 1 reactor reached Port San Luis in July 1970 and were the first reactor components unloaded at the new barge landing. The Unit 1 reactor vessel arrived in September 1970. The equipment shipped to the barge landing was loaded onto special truck trailers and driven over Diablo Canyon Road to the plant site.

In December 1970, PG&E received authorization from the AEC to install a second reactor at Diablo Canyon. The decision cleared the way for construction to begin on the buildings and structures associated with the Unit 2 reactor. Meanwhile, construction on various support buildings and structures commenced outside the power block area. A small gatehouse (the Avila Gate) used to screen visitors was built at the entrance to Diablo Canyon Road, approximately seven miles from the power block area not far from Port San Luis. From approximately spring 1970 to winter 1971, two long breakwaters began to take shape off the coast next to the power plant site to create a new manmade cove. To create the breakwaters, hundreds of tons of rock and multi-ton concrete tribars were dropped into the ocean. Once completed, the manmade cove, also known as the Intake Cove, served as a sheltered location from which seawater could be drawn into the plant through a massive concrete Intake Structure to cool steam used to turn the turbine-generators. This cooling water would be released back into the ocean through a concrete Discharge Structure located in Diablo Cove, a natural cove directly to the north of the Intake Cove and just below the Turbine Building, after it had circulated through the plant.

As the breakwaters were taking shape, construction began on the Intake Structure and Discharge Structure in the summer of 1971. Both structures were erected by building coffer dams in the

Intake Cove and Diablo Cove to temporarily remove seawater from the areas during construction. Both were complete or nearly complete by early 1973.

By spring 1971, at least a dozen utilitarian support buildings and structures of varying sizes had been erected in a fabrication yard to the east and southeast of the power block and not far from the Intake Cove. The buildings in this area continued to evolve over the course of construction and into the early years of the plant's operation. Most of these early support buildings no longer exist.

Although DCPP Units 1 and 2 were originally scheduled to be in operation by 1973 and 1974, respectively, numerous unforeseen issues delayed the plant's completion for more than a decade. The first delay occurred in February 1972 when the AEC ordered a partial suspension of construction, pending review of an environmental impact study requested by the Scenic Shoreline Preservation Conference under the recently enacted National Environmental Policy Act (NEPA). By June 1972, the AEC ruled that work could continue at Diablo Canyon pending completion of the studies. It is unclear what impact the temporary halt had on the progress of construction at the DCPP, as historic photographs indicate that a significant amount of construction continued throughout much of the site during this period, including at the Unit 1 and 2 power block buildings and Intake and Discharge Structures. Foundations were also laid for two large raw water reservoir ponds on the upper terrace to the northeast of the power block during this time. The Unit 1 reactor vessel was installed inside the Unit 1 Containment Building in the first few months of 1973. The Unit 2 reactor vessel arrived at Port San Luis approximately one year later. In May 1973, the AEC ruled that the Diablo Canyon project had cleared environmental review. By this time, the start of operation of Units 1 and 2 had been pushed back to 1975 and 1976, respectively.

Perhaps the most impactful event in the plant's development occurred at the end of 1973, when a study by the US Geological Survey (USGS) confirmed that an active seismic fault, named the Hosgri Fault, ran off the coast approximately 3 miles from the DCPP site. Studies suggested that the fault could produce a magnitude 7.5 earthquake. Licensing of the plant was initially delayed for at least six months while the USGS and Nuclear Regulatory Commission (NRC), which had by this time replaced the AEC as the federal regulatory agency in charge of nuclear licensing, analyzed the potential effects of the fault on the DCPP.

While the implications of the Hosgri Fault were being debated, another hurdle emerged in 1975. Following initial tests of the plant's cooling water intake and discharge system in the summer of 1974, staff and biologists from the California Department of Fish and Wildlife and PG&E discovered hundreds of dead abalone in Diablo Cove. By 1975, estimates of the number of abalone killed had risen to the thousands. According to a report released by the California Department of Fish and Wildlife, the abalone deaths were the result of toxins produced by a reaction between salt in the seawater and copper alloy tubing used in the plant's cooling system. Completion of the plant was stalled while PG&E replaced the roughly six million feet of copper alloy tubing in the cooling system with titanium tubing. To address environmental concerns about the impacts of the nuclear plant on the ecology of the Intake Cove and Diablo Cove, a biological testing lab was also added on a small spit of land where the east breakwater met the coastline.

This lab remained in use until the 1990s and was demolished in the 2000s, though some concrete remnants, including steps to the ocean, remain.

In April 1976, the NRC issued its decision on the question of seismic safety at DCPP, as originally designed, and announced that the plant would need to be seismically retrofitted to be considered safe for operation. Several years of modifications followed, including adding concrete buttresses along the west side of the Turbine Building; the buttresses were then enclosed in what appears as two one-story additions along the Turbine Building's west façade. The discovery of the Hosgri Fault prompted the first demonstration against completion of DCPP. In February 1976, eight demonstrators, on a march to Washington, D.C. to protest nuclear power, were arrested at the Diablo Canyon plant site.

Meanwhile, PG&E's property holdings surrounding the DCPP expanded in the latter half of the 1970s. In 1974, Robert Marre declared bankruptcy and defaulted on the loan that PG&E had underwritten in 1967 as part of the original lease agreement for the plant. In 1977, a federal court granted PG&E a 99-year lease on the original 585 acres that PG&E had leased from the Marre family, as well as an additional 3,800 acres of Marre family land that surrounded it and partially had been used to back the 1967 lease agreement.

In July 1978, the NRC decided that seismic retrofit work at the DCPP had been completed and the plant was safe to operate. The plant still needed to be licensed by the NRC Safety and Licensing Board before it could begin commercial operation.

On March 28, 1979, the worst nuclear accident in the United States' history occurred when one of the reactors at the Three Mile Island Nuclear Generating Station in Pennsylvania experienced a partial meltdown. In response, California Governor Jerry Brown asked the NRC to immediately halt the licensing of DCPP so that studies of what had happened at Three Mile Island could be completed and continuing concerns about the safety of the Diablo Canyon plant's operations could be addressed. Due to safety questions that had been raised by the Three Mile Island incident, the NRC ordered a temporary moratorium on the licensing of all nuclear power plants in the United States in November 1979. Once new safety regulations and emergency standards were adopted, the moratorium was lifted, and licensing was allowed to continue. In February 1981, the NRC announced that licensing for the Diablo Canyon plant would be delayed at least until March 1982 while the agency reviewed an emergency plan that had been prepared for the plant in response to the Three Mile Island incident.

A historic aerial photograph taken in 1981 reveals the extent of construction that had been completed at the DCPP up to this point (see Figure 4.5-1). The main power block buildings for Unit 1 and Unit 2 were complete. A security building used to screen visitors had been erected immediately to the southeast of the Turbine Building. More than a dozen support buildings and structures of varying sizes were clustered in a wedge-shaped area further to the south in Zones 2 and 5, most of which no longer exist. Two large warehouses were located to the east of this wedge of buildings in Zone 6 (no longer existing). At the far southeast edge of the plant campus, an outdoor firing range and large warehouse had been built to the northwest of the concrete batch plant.

Figure 4.5-1. 1981 Historical Aerial Photograph of the DCPP Site

Source: Page & Turnbull, 2022 (see Appendix F).

The west breakwater was partially destroyed during storms in 1981. The damaged breakwater is visible in the 1981 aerial photograph above. Coastal engineer Omar Lillevang was hired to help redesign and update the east and west breakwaters to withstand future storms. Lillevang had also worked on the coastal design aspects of several other nuclear power plants, including the San Onofre Nuclear Generating Station. Using Lillevang's innovative physical model studies, the breakwaters were successfully rebuilt.

In September 1981, the NRC Safety and Licensing Board certified the seismic retrofit work previously completed in 1978, and PG&E was issued a license for low-level testing at DCPP. The license would allow for nuclear fuel to be loaded into the reactors to begin testing the plant at five percent capacity, below the level to generate commercial power. Then, during an NRC-sanctioned review of the plant, it was discovered that the wrong blueprints had been used to

build supports for the plant's cooling pipe system. Apparently, blueprints for Unit 2, still under construction, had been used to build safety structures for Unit 1. The NRC ordered exhaustive studies to review the plant's safety structures and systems, since some elements of the two units are the same while others are mirror images. PG&E hired Bechtel Power Corp, which had constructed over half of the nuclear reactors in the United States to that date, to complete this review and oversee necessary modifications. During the review process, Bechtel discovered hundreds of errors, mainly related to earthquake proofing. Modifications to fix the errors were completed in the summer of 1983.

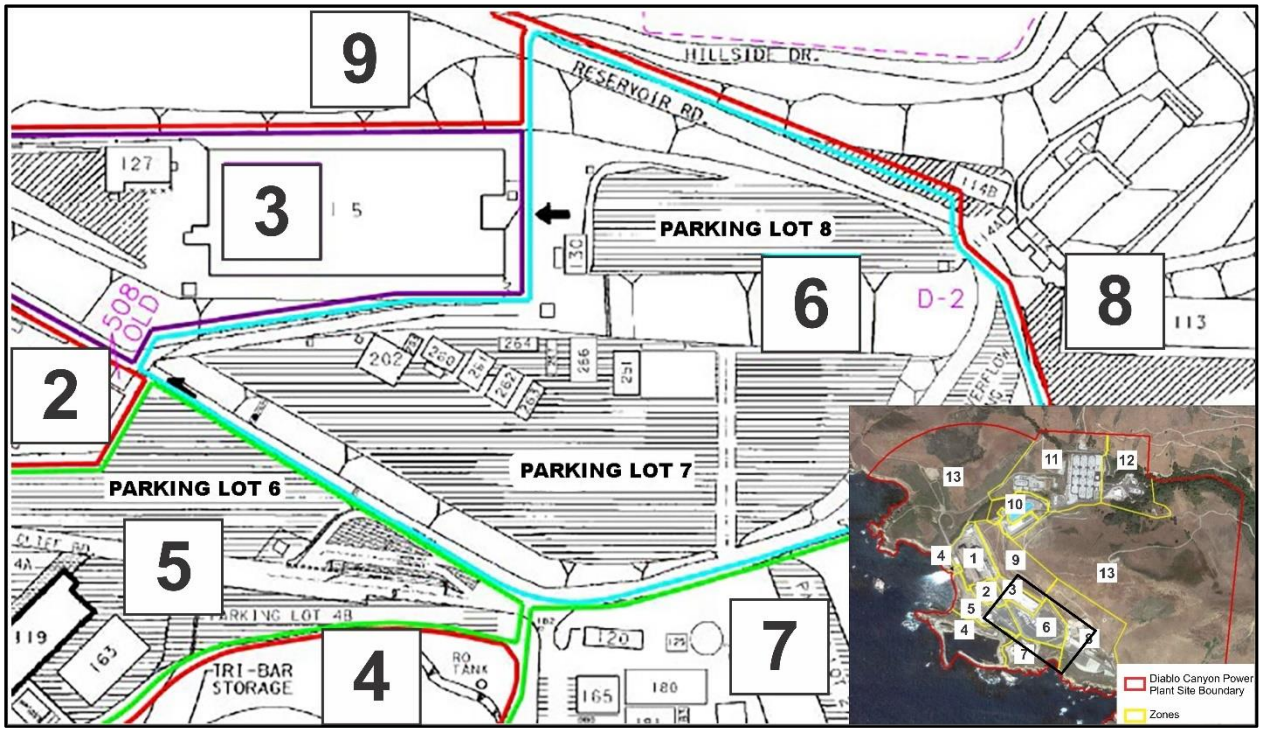
In April 1984, the NRC authorized a second low-level testing license. Although opponents challenged the decision and continued to lobby to stop full licensing for the plant, testing proceeded. Following several months of testing the plant's systems at low power, the NRC finally issued a full-power operating license for the Unit 1 reactor on August 2, 1984. A full-power operating license for the Unit 2 reactor followed almost exactly one year later on August 26, 1985. Both units went into full commercial operation the year following the issuance of the operating licenses, respectively, thus ending an 18-year saga to complete the plant. DCPP ultimately cost $5.6 billion dollars to complete.

A large number of support buildings and facilities were added to DCPP around 1985 and 1986, immediately after the plant's operating licenses were issued. These included a multi-story Administration Building, attributed to PG&E designers and built in 1986 with offices for the plant's staff directly to the south of the Turbine Building; the Cold Machine Shop in 1985 near the Administration Building; and the Main Warehouse in 1985 to the northeast of the power block in Zone 3. The architect who signed the drawings on the Main Warehouse and Cold Machine Shop was James M. Leefe, an architect with experience in large-scale industrial facilities and who was Principal of Urban Design at Bechtel Corporation's Commercial and Industrial organization.

As part of the plant's response to the Three Mile Island incident, robust training facilities were constructed to the southeast of the power block in Zone 5 (see Figure 4.5-2). These included a large Training Building, attributed to PG&E designers, which featured a full-scale replica of the reactor control room to help train plant operators, as well as a Maintenance Shop Building, also attributed to PG&E designers, with facilities for training the plant's maintenance staff.

Several water treatment facilities were also installed during this period. A seawater reverse osmosis water desalination plant was added north of the east breakwater. This was accompanied by the completion of additional water treatment facilities adjacent to the raw water reservoirs on the upper terrace to the north of the power block. These water treatment facilities provided fresh water for use by the staff at buildings throughout the property, as well as purified feedwater for use in some of the plant's water systems. At the north side of Parking Lot 7 (see Figure 4.5-2), a series of modular buildings were constructed to provide additional offices, conference rooms, and storage.

Figure 4.5-2. DCPP Decommissioning Zones



Source: Page & Turnbull, 2022 (see Appendix F).

Facilities at the DCPP site have continued to be modified and adapted over the decades since operations began to address evolving regulations and world events. Despite its high profile in the media, the Chernobyl nuclear accident in 1986 did not result in any major physical changes to DCPP; rather, changes were primarily administrative and procedural in nature. The plant's operational buildings continued to expand and evolve in the late 1980s with the addition of more warehouses, storage, and maintenance facilities.

A historic aerial photograph shows that by 1994 (see Figure 4.5-3), many of the older support buildings, constructed in the fabrication yard east and southeast of the power block, had been demolished and Parking Lot 6 and part of Parking Lot 7 had been completed. The biological testing lab ceased operation in the 1990s and was demolished in the 2000s. Around 1997, an early phase of security modifications was carried out. More extensive security alterations took place in the decade following the September 11, 2001, terrorist attacks, including the construction of security towers and a modern Security Building in 2012. In 2008, the original steam generators inside the containment buildings were replaced and stored inside a specially constructed concrete building on the upper terrace to the northeast of the power block.

In 2011, a nuclear accident at the Fukishima Daiichi Nuclear Power Plant in Japan prompted the creation of a nationwide Diverse and Flexible Coping Strategies, or FLEX, program for operating nuclear plants in August 2012 (NEI, 2012). The FLEX program resulted in the establishment of centers across the United States to respond to nuclear accidents anywhere within the country within 24 hours. In response, the Security Building was gutted and remodeled, and several new storage facilities were added to house necessary equipment in case of such a situation.

Figure 4.5-3. 1994 Historical Aerial Photograph of the DCPP Site

Source: Page & Turnbull, 2022 (see Appendix F).

In 2016, PG&E announced a Joint Proposal with several labor and environmental organizations to begin phasing out nuclear power and increase its investment in energy efficiency, renewable energy sources, and energy storage. As part of the proposal, PG&E announced that it would not renew the federal operating licenses for DCPP when they were set to expire in 2024 and 2025, respectively. The CPUC approved PG&E's proposal in 2018, beginning the process of decommissioning the plant. PG&E withdrew its license renewal application from the NRC after the CPUC's approval of the decommissioning proposal.

Pismo Beach Railyard Site History

Review of aerial imagery shows that the rail line running through the Pismo Beach Railyard (PBR) was in place as early as 1949. Other portions of PBR appear to have been used for crop production or possibly grazing during this time. Aerial photos from 1956 show PBR with extensive grass, again possibly used for grazing or agricultural needs. Photo documentation from 1962 illustrates the beginning of the property's development and by 1971, most of the infrastructure seen today, such as paved space, access roads, and buildings, were in place.

Santa Maria Valley Railyard Facility – Betteravia Railyard Site History

The entirety of the Betteravia Railyard project area corresponds to the industrial component of the historic community of Betteravia, the history of which is directly tied with the Union Sugar

Company, which was incorporated in September 1897. In February 1898, the company contracted with the Pacific Coast Railway to build a spur to the north shore of Guadalupe Lake, where they had acquired a 200-acre tract of land and the Marshultz & Cantrell Company of San Francisco was building their sugar beet processing plant. Cottages for the plant superintendent and half a dozen employees followed soon after. In July 1898, the Southern Pacific Railroad extended a spur from Guadalupe to the sugar refinery, giving the plant access to two railroad systems. The opening of the Union Sugar factory in September 1899 marked the changing of the local business scene and the beginning of growth in the valley itself. In addition to becoming one of the most modern plants, Union Sugar became the oldest operating sugar plant in the United States and produced more beet sugar than any other sugar plant in the country.

The town of Betteravia (named after the French word for sugar beet, betterave) eventually consisted of 65 to 70 cottages, most of which were in place by the 1920s, along with a non-denominational church, the company-owned store, a post office, a two-room schoolhouse, and social halls. Maps from 1920 and aerial photographs document that the largest residential area was on the west, where four streets were laid out: Lake Front Avenue, 1st, 2nd, and 3rd. Within this area, the cottages varied in size and architectural elaboration, depending on the company status of the resident. Another residential area centered on the company's factory boarding house (Betteravia Hotel) and the bunkhouses for the field laborers. Sugar beets were originally grown under contract with area farmers, but the company later switched to hiring its own workers, employing Chinese at first, followed by Japanese, and, later, Mexican crews. Further east were the buildings of the Union Sugar Company ranch, fenced off from the industrial plant area. A feedlot, where cattle were fattened for market on discarded beet pulp, was also on-site. An array of sheds and rail sidings lay to the east of the refinery rail to receive open carloads of sugar beets, as well as the coke and Lompoc "lime rock" used in the sugar refining process. Dumping fields for the spent pulp and slaked lime lay to the north of the refinery.

The Union Sugar Company was criticized in some sectors for monopolizing such large, irrigated tracts of the "very best agricultural land," hiring their own (foreign) crews rather than using local labor and funneling most of the profits to stockholders out of the Santa Maria Valley. The refinery's cycle of production was year-round, but with seasonal variation—in 1906 the local press stated, "Beets are planted from October to May, and the factory run extends from the first of June to the end of December." (PG&E, 2021)

The refinery complex continued to grow and undergo modifications as it modernized through the ensuing decades. Betteravia Lake was also affected by the growth of the refinery and the increasing capacity of its output. The Union Sugar Company began draining the lake in 1916 to reclaim additional farmland; by 2001, the only water remaining was "a small pond behind the old factory site." The factory had shut down for an extended time in 1927, after a nematode (roundworm) infestation affected entire beet crops. It remained dormant until 1934 when it switched to processing sugar beets shipped from the Imperial Valley. During World War II, the Betteravia Hotel housed the wives and families of servicemen stationed at Camp Cooke, and German prisoners of war replaced Japanese farm laborers, who had been sent to internment camps. In 1951, the Consolidated Foods Corporation (later the Sara Lee Corporation) acquired the Union Sugar Company. The refinery remained in operation, but the company town dwindled as workers began

to commute to the factory by automobile; the residential area was dismantled in the mid-1960s. The plant closed permanently in August 1993 and was beginning to be dismantled by late 1996.

4.5.1.5 Cultural Resources Data Collection Methodology

Diablo Canyon Power Plant

Archaeology. Applied Earthworks (AE) conducted a cultural resources records search of the DCPP boundary at the Central Coastal Information Center (CCIC) of the California Historical Resources Information System, housed at the University of California, Santa Barbara (PG&E, 2020). Other sources consulted include the following:

- AE's in-house geographic information system geodatabase with site locations and previous study areas;
- AE's in-house documentation and previous studies that cover the DCPP site;
- PG&E's cultural resource library and geospatial database for the DCPP site, which includes a comprehensive records search from the CCIC, covering DCPP;
- California Office of Historic Preservation: California Historical Landmarks—San Luis Obispo County;
- California Office of Historic Preservation, California Historical Resources—San Luis Obispo County; and
- the National Register of Historic Places (NRHP).

AE visited and updated eight known sites within the DCPP site between November 16 and 20, 2020. A pedestrian survey was conducted at each site to locate cultural materials. Geospatial data for artifacts, site boundaries, and landscape features were recorded using a submeter-accurate GPS (Arrow Gold RTK GNSS receiver) and the ESRI Collector application. Sites were photographed and described, and full site updates were provided on modern California DPR forms.

Built Environment. Page & Turnbull staff reviewed the following sources for information regarding built environment resources within the Project area (Page & Turnbull, 2022 – see EIR Appendix F):

- Built Environment Resource Directory for San Luis Obispo County
- PG&E Facility Database provided to Aspen Environmental Group

In April 2022, Page & Turnbull completed a Historic Built Environment Evaluation Report to evaluate the eligibility of the DCPP site for listing on the NRHP and the California Register of Historical Resources (see EIR Appendix F). Page & Turnbull prepared the report using books, journal articles, and other pieces of scholarly literature about the history of the DCPP site, nuclear power, and the environmental movement, as well as various online sources including Newspapers.com and the websites of the NRC and World Nuclear Association. Key primary sources consulted and cited included historic photographs from the PG&E archives, historic aerial photographs, and historical newspapers. Inquiries were made to the University of California, Berkeley's Environmental Design Archives and to the Oregon Historical Society Research Library

for information regarding Wurster, Bernardi, and Emmons and Pietro Belluschi, respectively, and their involvement as architects in the original plant design.

On September 23 and 24, 2021, Page & Turnbull architectural historians visited the property and recorded existing buildings and built environment features within the DCPP site with photographs and field notes.

Pismo Beach Railyard

Archaeology. AE conducted a cultural resources records search of the PBR site plus a 0.25-mile buffer at the CCIC on January 10, 2019. Primary reference materials included USGS 7.5-minute base maps, site records, report files, and the Directory of Properties in the Historical Properties Data Files. Additionally, AE conducted a pedestrian survey of the PBR site. Most of the east portion of the area is developed and covered with pavement, buildings, railway, access roads, a detention basin, and berm. Paved areas were not surveyed for cultural resources, as cultural materials, if present, are now buried from view.

Built Environment. AE conducted a cultural resources records search of the PBR site plus a 0.25-mile buffer at the CCIC on January 10, 2019. Primary reference materials included USGS 7.5-minute base maps, site records, report files, and the Directory of Properties in the Historical Properties Data Files. Additionally, AE conducted a pedestrian survey of the PBR site. Most of the east portion of the area is developed and covered with pavement, buildings, railway, access roads, a detention basin, and berm.

Santa Maria Valley Railyard Facilities

Archaeology. SWCA Environmental Consultants (SWCA) conducted a records search at the CCIC on April 11, 2021 of the Santa Maria Valley Railyard (SMVR) Facilities (PG&E, 2021). This search was limited to resources and reports within a 0.25 -mile radius of the Santa Maria Valley Railyard – Betteravia Industrial Park (SMVR-SB).

The literature review and records search materials contained information on prehistoric and historic era cultural resources previously recorded at the sites and within a 0.25-mile radius. Official maps and records on file at the CCIC were reviewed in addition to the following sources:

- PG&E's Confidential Cultural Resource Database
- NRHP – Listed Properties
- CRHR
- California Inventory of Historical Resources
- California State Historical Landmarks
- California Points of Historical Interest
- California Office of Historic Preservation Historic Property Directory and Determinations of Eligibility

SWCA also conducted a pedestrian survey of SMVR-SB on April 13, 2021. SWCA conducted the survey using parallel transects spaced no more than 15 meters apart over the SMVR-SB area. All areas of exposed ground surface were examined for the presence of cultural resources.

Built Environment. SWCA's records search and literature review included a search for records related to historic built resources recorded at the SMVR site. In June 2021, SWCA completed a Cultural Resources Constraints Analysis for SMVR to investigate the potential use of the railyards during decommissioning of the DCPP. The report incorporated the results of the literature review and records search conducted by SWCA in April 2021, as well as a preliminary evaluation of the sites' eligibility for listing on the California Register. SWCA also conducted a pedestrian survey of SMVR-SB on April 13, 2021. SWCA conducted the survey using parallel transects spaced no more than 15 meters apart over the SMVR-SB area. All areas of exposed ground surface were examined for the presence of cultural resources.

On September 22, 2021, Page & Turnbull conducted a separate site visit to the SMVR-SB site and photographed the area. Page & Turnbull gathered and reviewed historic aerial photographs of the site from the 1950s to 1970s to determine which, if any, buildings or structures remained from the Union Sugar Company's period of operation that end in 1951.

4.5.1.6 Cultural Resources Findings Summary

Diablo Canyon Power Plant

Archaeology. The records search and literature review conducted by AE gathered 49 studies covering all or part of the DCPP site ranging from 1929-2019. The record search established that the prehistoric cultural resources along the Pecho Coast are part of the Rancho Cañada de los Osos y Pecho y Islay Archaeological District (the District), which covers 2,434 acres and includes 106 prehistoric archaeological sites within PG&E's Diablo lands and Montaña de Oro State Park. Encompassing an approximately 11-mile-long section of the Pecho Coast, the District covers the coastal terrace extending inland from the Pacific Ocean shoreline to the slopes of the Irish Hills. The District was added to the NRHP in 1975 and has the National Registry Information System Identification number 75000477. There have been several updates to the scope of the District since 1975, expanding it to include additional prehistoric cultural sites. The most recent updated nomination, by Price and Clark in 2019, has not yet been approved by the National Historic Resources Commission.

Of the 106 archaeological sites within the District, 22 are considered non-contributing. These 22 sites include 7 resources that lack integrity or have been destroyed by development; 14 sites which appear to date exclusively to the Historic Period, and 1 site of undetermined age. The remaining 84 sites that are contributing elements to the District share not only their geographic locale, but a common prehistory and cultural identity. These sites represent both residential and limited activity sites, and chronometric data indicates that all the sites within the District range in age from the Late Paleo-Indian Period (before 10,000 cal. B.P.) to the Historic Period (180 cal. B.P.) These contributing sites also retain sufficient integrity to be of research value, including their integrity of setting (largely undeveloped area), location (sites are in their original locations and maintain relationship to natural environment), design (sites retain their relationship to each other and functional areas remain intact), materials and workmanship (as seen in the artifacts), feeling and association (inter and intra-site relationships). As such, the District has yielded, and retains its potential to yield, a substantial amount of important information about long-term human occupation and use over the past millennia along the Pecho Coast.

Within the DCPP site, 10 previously recorded prehistoric archaeological sites were identified during the records search and review. Eight of these are contributing features of the District, automatically making them eligible for the CRHR. Two of these known prehistoric sites (CA-SLO-2 and CA-SLO-61) are within the area of proposed decommissioning activities (see Table 4.5-1).

Table 4.5-1. Cultural Resources within DCPP Project area

Trinomial No.	Description	District Contributor	CRHR Eligible	Within Decommissioning Area
CA-SLO-2	Large prehistoric village site	Yes	Yes	***Yes***
CA-SLO-61	Prehistoric short-term habitation site	Yes	Yes	***Yes***
CA-SLO-584	Prehistoric short-term habitation site (destroyed)	No	No	No
CA-SLO-1159	Prehistoric short-term habitation site	Yes	Yes	No
CA-SLO-1160	Prehistoric short-term habitation site	Yes	Yes	No
CA-SLO-1161	Prehistoric short-term habitation site	Yes	Yes	No
CA-SLO-1162	Prehistoric short-term habitation site	Yes	Yes	No
CA-SLO-1163	Prehistoric short-term habitation site (destroyed)	No	No	No
CA-SLO-2865	Prehistoric artifact scatter	Yes	Yes	No
CA-SLO-2866	Prehistoric artifact scatter (possibly connected to CA-SLO-1161)	Yes	Yes	No

Source: PG&E, 2020.

AE did not survey the identified borrow site known as the SE Borrow Site (see Figure 2-30) as part of their technical study; however, the 750-acre DCPP boundary has been surveyed and studied by archaeologists many times throughout the years and no cultural resources have been previously identified within the SE Borrow Site.

CA-SLO-2

CA-SLO-2 is a very large, long-term village site that was intermittently occupied starting in the Paleo-Indian Period, with major occupations in the Paleo-Indian, Millingstone/Lower Archaic, and Middle Periods. There was an occupational hiatus in the Early Period, and a minor occupation during the Late period. The site itself covers 47 acres of the DCPP Project Area and has yielded a wide variety of artifacts from the full span of its occupation. The site was first recorded in 1947, and a small area in the southeastern portion was excavated by Greenwood in 1968 prior to the construction of DCPP. The importance of CA-SLO-2 has been determined individually eligible for listing in the NRHP and CRHR and is a contributing element of the District.

Based on information provided by the November 17, 2020, survey and historical aerial photos, the following disturbances have occurred within the bounds of CA-SLO-2 since the initial development of DCPP: road construction, former wastewater pond/current soil stockpile, former plant construction laydown area, former sand blast area, former substation, existing 230-kV transmission tower, roads, air monitoring station, soldier wall, and redeposited cultural materials. The wastewater pond, with lined drainage and an associated building complex used for security/fire crew training, once covered 5,593 square meters (1.38 acres) along the northeast margin of CA-SLO-2. All facilities and equipment have been relocated, the surface is graded,

capped with fill, and currently serves as a soil stockpile location. The former plant construction laydown yard covers 45,470 square meters (11.23 acres) and appears to have been graded and had vegetation removed. The former sand blast area covers 2,060 square meters (0.5 acres) within the former laydown area, and is distinguished by a concentration of sandblasting grit and granite gravel likely deposited during DCPP construction in the 1970's. The former substation was removed in 1979 and is now comprised of a gravel capped road and fill area at the southeast margin of the site. The existing 230-kV transmission tubular steel pole (TSP) is located at the southeastern edge of the former substation. The area surrounding the base of this TSP has been capped with fill, and the SWCA investigations here in 2019 established an intact archaeological deposit on the southeast side of this transmission TSP. Multiple roads run through CA-SLO-2, including Diablo Creek Road, which was cut well below the cultural layers, capped by fill, and was graded in the east terrace area. The air monitoring station is located along the northeastern margin of the site, adjacent to the large stockpile and lined drainage ditch. The 540-foot long, 2-foot-tall soldier wall was constructed in early 2018 to stabilize the hillside adjacent to Pecho Valley Road, along the eastern portion of CA-SLO-2. It was constructed well below the cultural stratum, and while no cultural material or artifacts were observed in the eroded soils at the time, it was treated as such and redeposited on an abandoned ranch road on the margin of the site. These 60 square meter spoils area is separated from the underlying road by geotextile fabric and is now stabilized by vegetation.

CA-SLO-61

CA-SLO-61 is a short-term residential area on the south side of Diablo Creek, within the DCPP Project Area. Initially recorded in 1948, the site was partially excavated in 1972 prior to DCPP construction and was then covered by concrete and buildings. AE conducted small excavations in 2011, during fiber-optic cable installation. At this time the site boundaries were extended to cover a total of 2,215 square meters (0.54 acres), and intact cultural deposits remain in place.

Built Environment. The DCPP is not currently listed on the NRHP or CRHR for built environment resources. It is also not listed in the Built Environment Resource Directory database for San Luis Obispo County, as of the March 2020 update. This means no previous evaluations or surveys of the property have been submitted to the California Office of Historic Preservation.

Based on the Facilities Database provided by PG&E, DCPP has approximately 115 buildings and structures at the Project site. Of these, 30 buildings and structures that have a Year Built day of 1985 or earlier remain. The 1985 date corresponds to when the Unit 2 reactor was licensed for full commercial operation and the plant was considered functionally complete. While this is less than 50 years ago, sufficient resources are available to understand DCPP within the context of nuclear power in California and the nation. The April 2022 Historic Built Environment Report prepared by Page & Turnbull (see EIR Appendix F) did not find the DCPP or any of the 30 individual buildings and structures to be eligible for listing on the NRHP or CRHR. Thus, no eligible historic resources have been identified at the DCPP site.

Pismo Beach Railyard

Archaeology. The record search conducted by AE identified 108 previous studies within the 0.25-mile radius of the PBR, with 23 previous studies that covered all, a part, or are directly

adjacent to the PBR area. The record search results also show seven recorded archaeological sites, and two historical built-environment resources within the 0.25-mile radius. Two of the previously recorded archaeological sites (CA-SLO-81 and CA-SLO-832) fall within the PBR area and are listed in Table 4.5-2.

During the pedestrian survey, three areas were found to contain cultural materials ranging from exposed shell midden to an artifact scatter. All three concentrations are associated with either CA-SLO-81 or CA-SLO-832. The only decommissioning activity proposed within the PBR site is to replace approximately 1,100 feet of track, wood railroad ties, and adding gravel on the northeast side of the site. CA-SLO-81 and CA-SLO-832 are both located far outside any proposed upgrades and therefore would not be in the area of the proposed activities.

Table 4.5-2. Cultural Resources within Pismo Beach Rail Yard Project area

Trinomial No.	Description	District Contributor	CRHR Eligible	Within Decom-missioning Area
CA-SLO-81	Large prehistoric artifact scatter	No	Unevaluated	No
CA-SLO-832	Prehistoric habitation site	No	Yes	No

Source: PG&E, 2020.

Built Environment. The record search and site survey conducted by AE identified two historical built-environment resources within the 0.25-mile radius. No known built-environment resources were identified within the Pismo Beach Railyard Facility.

Santa Maria Valley Railyard Facility

Archaeology. The CCIC records search conducted by SWCA revealed that there are no previous studies and no previously documented cultural resources are within the SMVR-SB site.

The SMVR-SB site area was subject to a pedestrian survey which did not yield any archaeological resources within or adjacent to the SMVR-SB site, and no archaeological features were identified during the pedestrian survey.

Built Environment. At SMVR-SB, few built resources remain from the Union Sugar Company's period of operations, which started in 1898 and ended in 1951 when Consolidated Foods Corporation acquired the Union Sugar Company. The residential area for workers was demolished in the mid-1960s. Once the plant closed in 1993, its dismantling began in 1996. A comparison of historic photographs with current buildings indicates that the main factory building no longer exists. At most, two warehouse buildings may remain from the Union Sugar Company period, which would not be sufficient for the property to have integrity as an eligible historical resource.

4.5.2 Regulatory Setting

Numerous laws and regulations require state and local agencies to consider the effects a project may have on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies. The various federal and state laws, regulations, and policies are presented in Appendix C.

San Luis Obispo County General Plan. Two elements of the San Luis Obispo County General Plan include policies regarding the management of cultural resources: the Land Use Element (San Luis Obispo, 2007) and the Conservation and Open Space Element (San Luis Obispo, 2010). The relevant policies are described below.

San Luis Obispo County Land Use Element – Local Coastal Program

- Policy 1: Protection of Archaeological Resources. The County shall provide for the protection of both known and potential archaeological resources. All available measures, including purchase, tax relief, purchase of development rights, etc., shall be explored at the time of a development proposal to avoid development on important archaeological sites. Where these measures are not feasible and development will adversely affect identified archaeological or paleontological resources, adequate mitigation shall be required.
- Policy 2: Vandalizing of Resources Activities. Other than development, which could damage or destroy archaeological sites, including off-road vehicle use on or adjacent to known sites and unauthorized collecting of artifacts, shall be prohibited.
- Policy 3: Identification of Archaeological Sites. The County shall establish and maintain archaeological site records of data files about known sites. These sensitive areas shall be defined as follows:
  - Within rural areas, the County maintains on file a parcel number list of known sites as prepared and updated by the California Archaeological Site Survey Office.
  - Within urban areas, the County shall maintain maps in the Land Use Element (combining designation) which reflect generalized areas of known sites. These maps shall be prepared by the California Archaeological Site Survey Regional Office.
- Policy 4: Preliminary Site Survey for Development within Archaeologically Sensitive Areas. Development shall require a preliminary site survey by a qualified archaeologist knowledgeable in Chumash culture prior to a determination of the potential environmental impacts of the project.
- Policy 5: Mitigation Techniques for Preliminary Site Survey before Construction. Where substantial archaeological resources are found as a result of a preliminary site survey before construction, the County shall require a mitigation plan to protect the site. Some examples of specific mitigation techniques include:
  - Project redesign could reduce adverse impacts of the project through relocation of open space, landscaping or parking facilities.
  - Preservation of an archaeological site can sometimes be accomplished by covering the site with a layer of fill sufficiently thick to insulate it from impact. This surface can then be used for building that does not require extensive foundations or removal of all topsoil.
  - When a project impact cannot be avoided, it may be necessary to conduct a salvage operation. This is usually a last resort alternative because excavation, even under the best conditions, is limited by time, costs and technology. Where the chosen mitigation measure necessitates removal of archaeological resources, the county shall require the evaluation

and proper deposition of the findings based on consultation with a qualified archaeologist knowledgeable in the Chumash culture.

- A qualified archaeologist knowledgeable in the Chumash culture may need to be on-site during initial grading and utility trenching for projects within sensitive areas.

- Policy 6: Archaeological Resources Discovered during Construction or through Other Activities. Where substantial archaeological resources are discovered during construction of new development, or through non-permit related activities (such as repair and maintenance of public works projects) all activities shall cease until a qualified archaeologist knowledgeable in the Chumash culture can determine the significance of the resource and submit alternative mitigation measures.

San Luis Obispo County Conservation and Open Space Element

Goals

- Goal CR 1. The County will have a strong, positive community image that honors our history and cultural diversity.
- Goal CR 2. The County will promote public awareness and support for the preservation of cultural resources in order to maintain the county's uniqueness and promote economic vitality.
- Goal CR 3. The County's historical resources will be preserved and protected.
- Goal CR 4. The County's known and potential Native American, archaeological, and paleontological resources will be preserved and protected.

Policies

- Policy CR 1.1 Cultural Identity. Establish and support programs that enhance the county's sense of community and identity, such as the collection of oral histories, cultural and genealogical research, and the acquisition of collections of historic artifacts, documents, and memorabilia relevant to the history of the county.
- Policy CR 2.1 Community Participation. The County will actively promote and support community participation in the preservation and enhancement of the county's culture and history.
- Policy CR 2.2 Acquisition. The County encourages and supports acquisition by public agencies or historical or conservation organizations of the most important archaeological and cultural sites from willing sellers.
- Policy CR 2.3 "Living Resources". Preserve historic sites and buildings and recognize cultural and archaeological resources as "living resources" that are part of a continuing culture.
- Policy CR 3.1 Historic Preservation. The County will provide for the identification, protection, enhancement, perpetuation, and use of features that reflect the County's historical, architectural, Native American, archaeological, cultural, and aesthetic heritage.
- Policy CR 3.2 Historic Preservation Programs. The County supports and encourages historic preservation activities. County agencies should cooperate and coordinate their activities with preservation activities.

- Policy CR 3.3 Remodeling and Reconstruction. Maintain and enhance the historic character of the county by establishing review procedures for the remodeling and reconstruction of buildings and other structures consistent with the Secretary of the Interior's Standards
- Policy CR 4.1 Non-development Activities. Discourage or avoid non-development activities that could damage or destroy Native American and archaeological sites, including off-road vehicle use on or adjacent to known sites. Prohibit unauthorized collection of artifacts.
- Policy CR 4.2 Protection of Native American Cultural Sites. Ensure protection of archaeological sites that are culturally significant to Native Americans, even if they have lost their scientific or archaeological integrity through previous disturbance. Protect sites that have religious or spiritual value, even if no artifacts are present. Protect sites that contain artifacts, which may have intrinsic value, even though their archaeological context has been disturbed.
- Policy CR 4.3 Cultural Resources and Open Space. The County supports the concept of cultural landscapes and the protection and preservation of archaeological or historical resources as open space or parkland on public or private lands.
- Policy CR 4.4 Development Activities and Archaeological Sites. Protect archaeological and culturally sensitive sites from the effects of development by avoiding disturbance where feasible. Avoid archaeological resources as the primary method of protection.
- Policy CR 4.6 Resources-Based Sensitivity. Protect archaeological resources near streams, springs and water sources, rock outcrops, and significant ridgetops, as these are often indicators of the presence of cultural resources.

San Luis Obispo County Code. Two titles of the San Luis Obispo County General Ordinances include municipal codes regarding the management of cultural resources: Title 22- Land Use Ordinance (San Luis Obispo, 2014) and Title 23- Coastal Zone Land Use (San Luis Obispo, 2014). The relevant ordinances are summarized below.

Title 22- Land Use Ordinance

22.10.040 - Archaeological Resources.

In the event archaeological resources are unearthed or discovered during any construction activities, the following standards apply:

- Construction activities shall cease, and the Department shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist, and disposition of artifacts may be accomplished in accordance with state and federal law.
- In the event archaeological resources are found to include human remains, or in any other case when human remains are discovered during construction, the County Coroner shall be notified in addition to the Department so proper disposition may be accomplished.

22.14.080 - Historic Site (H).

Purpose. The Historic Site (H) combining designation is applied to recognize the importance of archaeological sites and historic sites, structures, and areas important to local, state, or national history. These standards are intended to protect archaeological resources, historic structures,

and sites by requiring new uses and alterations to existing uses to be designed with consideration for preserving and protecting these resources.

Title 23- Coastal Zone Land Use

23.07.104- Archaeologically Sensitive Areas.

To protect and preserve archaeological resources, the following procedures and requirements apply to development within areas of the coastal zone identified as archaeologically sensitive.

- Archaeologically sensitive areas. The following areas are defined as archaeologically sensitive:
  - Any parcel within a rural area which is identified on the rural parcel number list prepared by the California Archaeological Site Survey Office on file with the county Planning Department.
  - Any parcel within an urban or village area which is located within an archaeologically sensitive area as delineated by the official maps (Part III) of the Land Use Element.
  - Any other parcel containing a known archaeological site recorded by the California Archaeological Site Survey Office.
- Preliminary site survey required. Before issuance of a land use or construction permit for development within an archaeologically sensitive area, a preliminary site survey shall be required. The survey shall be conducted by a qualified archaeologist knowledgeable in local Native American culture and approved by the Environmental Coordinator. The County will provide pertinent project information to the Native American tribe(s).
- When a mitigation plan is required. If the preliminary site survey determines that proposed development may have significant effects on existing, known or suspected archaeological resources, a plan for mitigation shall be prepared by a qualified archaeologist. The County will provide pertinent project information to the Native American tribe(s) as appropriate. The purpose of the plan is to protect the resource. The plan may recommend the need for further study, subsurface testing, monitoring during construction activities, project redesign, or other actions to mitigate the impacts on the resource. Highest priority shall be given to avoiding disturbance of sensitive resources. Lower priority mitigation measures may include use of fill to cap the sensitive resources. As a last resort, the review authority may permit excavation and recovery of those resources. The mitigation plan shall be submitted to and approved by the Environmental Coordinator and considered in the evaluation of the development request by the Review Authority.
- Archaeological resources discovery. In the event archaeological resources are unearthed or discovered during any construction activities, the standards of Section 23.05.140 of this title shall apply. Construction activities shall not commence until a mitigation plan, prepared by a qualified professional archaeologist reviewed and approved by the Environmental Coordinator, is completed and implemented. The County will provide pertinent project information to the affected Native American tribe(s) and consider comments prior to approval of the mitigation plan. The mitigation plan shall include measures to avoid the resources to the maximum degree feasible and shall provide mitigation for unavoidable impacts. A report verifying that the approved mitigation plan has been completed shall be submitted to the Environmental Coordinator prior to occupancy or final inspection, whichever occurs first.

Santa Barbara County Comprehensive Plan, Land Use Element. The Land Use Element identifies policies to protect and avoid impacts associated with historical, archaeological, and cultural sites (Santa Barbara, 2016). As described in Section 1.3.3.2, *Surface Transportation Board*, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction over railyards (e.g., SMVR-SB).

City of Pismo Beach General Plan and Local Coastal Program. The City's General Plan identifies policies for the protection of archaeological, paleontological, and cultural resources, which includes standards for the investigation of known resources and when construction must be suspended (Pismo Beach, 2014).

4.5.3 Significance Criteria

The significance criteria listed below are used to determine whether a project or alternatives would result in significant impacts under CEQA related to cultural resources. These criteria are based on State CEQA Guidelines Appendix G. Under CEQA, the Proposed Project would cause a significant impact if it caused a substantial adverse change in the significance of a historical resource, an archaeological resource, or a tribal cultural resource as defined under CCR, Title 14, Chapter 3, Section 15064.5.

The Proposed Project would have a significant impact on these cultural resources if it would:

- Physically alter, damage, or cause destruction of all or a part of a historical or archaeological resource.
- Demolish or materially alter in an adverse manner those physical characteristics of a historical resource that convey its significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources, inclusion in a local register of historical resources, or its determination to be a historical resource by a CEQA lead agency.
- Demolish or materially alter in an adverse manner those physical characteristics of an archaeological artifact, site, or object that enable it to meet the definition of a unique archaeological resource under CEQA.
- Disturb any human remains, including those interred outside of formal cemeteries.

4.5.4 Environmental Impact Analysis and Mitigation

Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 (Class I: Significant and Unavoidable).

Phase 1

Phase 1 of decommissioning at the DCPP site generally includes the removal of utilities, demolition of existing buildings, removal of security fencing, removal of the road segment west of the security fence at the Discharge Structure, removal of the guard rails along the road segment, and demolition of the Discharge Structure. All activities are ground disturbing and require the use of conventional excavation equipment.

The railyard activities would include refurbishment of 1,100 feet of an existing spur rail at the PBR site. At SMVR-SB site the proposed decommissioning activities include the refurbishment of existing rail spurs, use of steel road plates or installation of engineered fill to accommodate trucks, and the installation of perimeter fencing. No ground disturbing activities that would impact native soils are proposed in either of the railyards.

Archaeology

DCPP Project Site

As described above in Section 4.5.1.6, *Cultural Resources Findings Summary*, there are 10 previously recorded prehistoric archaeological sites within the DCPP site, eight of which are contributing features of a larger NRHP Nominated District, automatically making them eligible for the CRHR, and are considered historical resources under CEQA. Two of these known prehistoric sites (CA-SLO-2 and CA-SLO-61) are within the area of proposed decommissioning activities, but outside of the Discharge Structure removal area and any identified cut or fill areas as shown in Figure 2-33 in Section 2, *Project Description*.

CA-SLO-2. Phase 1 decommissioning activities within CA-SLO-2 include removal of an existing 230 kV TSP and the removal of two guy wire anchors directly adjacent to that pole. CA-SLO-2 was subjected to immense disturbance in certain areas during construction of the DCPP. These disturbances included, but are not limited to, the construction of access roads throughout CA-SLO-2, construction of a substation, grading of a laydown area, and the deposit of sand blast grit from DCPP construction. The existing 230 kV TSP and guy wire anchors are located within the boundary of the former substation and the sand blast grit is located within the boundary of the former laydown area.

Under the Proposed Project, both the existing TSP and guy wire anchors would be removed to grade, and all subsurface footings would be abandoned in place. No excavations would occur to remove the TSP or guy wires. Therefore, Phase 1 decommissioning activities would not directly or indirectly impact CA-SLO-2, nor would these proposed activities impact the NRHP Nominated District.

CA-SLO-61. Phase 1 decommissioning activity within CA-SLO-61 includes removal of an existing security fence that surrounds the Turbine Building and Unit 1 and Unit 2 reactors. A portion of the existing security fence is within the boundary of CA-SLO-61. The security fence would be removed to grade, and the existing fence post footings would be removed by being pulled directly out of the ground without excavating around them, then backfilled with clean fill. Alternately, the fence footings known to be within the site boundaries could be abandoned in place with only the top 3 to 6 inches of the footing removed below grade to allow for a consistent grade and eventual paving. Since these activities would not involve the excavation of soils, these proposed activities would not directly nor indirectly impact known human remains within CA-SLO-61. Additionally, the existing asphalt access road that runs west of the security fence would be removed, along with its associated guard rails. Removal of the access road would involve the removal of only the asphaltic concrete (surface) course or layer and any asphalt or cement concrete curbs. The aggregate subbase and base course would be left in place for incorporation into the grading work. The guard rail footings would be removed in the same manner as the

security fence footings, by either being pulled directly out of the ground without excavating around them, then backfilled with clean fill or abandoned in place.

Since removal of the security fence and footings and the removal of the existing access road, guard rail, and guard rail footings would only take place superficially in previously disturbed soils and would not require any new ground disturbance in intact native soil, the proposed Phase 1 decommission activities would not directly or indirectly impact CA-SLO-61, nor would these proposed activities impact the NRHP Nominated District.

Railyards

Pismo Beach Railyard. The activities proposed at the PBR site include refurbishment of 1,100 feet of existing spur rail, as well as replacing railroad ties and some gravel to the northeast section of rail line. Refurbishing the rail line is limited to the existing footprint and would not encroach on any intact native soils. Two previously recorded sites are within the PBR boundary, CA-SLO-81 and CA-SLO-863. CA-SLO-81 is an unevaluated site but is assumed eligible for the purposes of CEQA, while CA-SLO-863 is a CRHR eligible resource; thus, both sites are considered historical resources. CA-SLO-81 and CA-SLO-832 are both located far west of the proposed spur rail refurbishment activity, and therefore would not be directly or indirectly impacted by the proposed activities.

SMVR-SB. Activities proposed for the SMVR-SB railyard include refurbishment of existing rail spurs, use of steel road plates or installation of engineered fill, and installation of perimeter fencing. No excavations would occur at the railyard. No known historical resources were identified through a record search or pedestrian survey within the SMVR-SB boundary. Therefore, no historical resources would be impacted.

Built Environment

DCPP Project Site

As stated in Section 4.5.1.6, the results of the cultural resources records search identified no previously known historic-age built resources in the DCPP site. The April 2022 Historic Built Resources Environment Report (EIR Appendix F) evaluated the eligibility of the DCPP for listing on the NRHP and CRHR.

With no individual buildings or structures, nor the DCPP constructed infrastructure as a whole, meeting any criteria for listing on the NRHP or CRHR, the DCPP site does not contain any historical resource for the purposes of CEQA. As there would be no direct or indirect impacts on historical resources, the Project would not cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5. Therefore, no impact to historical resources would occur.

Railyards

Pismo Beach Railyard. The activities proposed at the PBR site include refurbishment of 1,100 feet of existing spur rail, as well as replacing railroad ties and some gravel to the northeast section of rail line. Refurbishing the rail line is limited to the existing footprint and would not encroach on

any intact native soils. No known historical resources were identified through a records search or pedestrian survey within the Pismo Beach Railyard. Therefore, no impact to historical resources would occur.

SMVR-SB. Activities proposed for the SMVR-SB railyard include refurbishment of existing rail spurs, use of steel road plates or installation of engineered fill, and installation of perimeter fencing. No subsurface excavations are proposed. No known historical resources were identified through a record search or pedestrian survey within the SMVR-SB boundary. Therefore, no impact to historical resources would occur.

Unanticipated Buried Resources

As with any project that involves ground disturbing activity, there is the potential for unknown buried resources to be encountered within the DCPP site. Inadvertent disturbance or destruction of an unidentified cultural resource, that could be considered a historical resource, could damage or destroy the resource or change its context. Due to the sensitive nature of the DCPP site, the potential for encountering unanticipated buried resources is highly probable even in previously disturbed areas. If an unanticipated buried resource is encountered, and if the currently unidentified resource were determined to be eligible for listing in the CRHR, the Proposed Project activities could result in a significant impact to the resource. PG&E would conduct awareness training as part of the Proposed Project (AC CR-2, *Worker's Environmental Awareness Training – Cultural and Paleontological Resources*); however, this training would focus more on paleontology. MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 *(Retain Chumash Tribal Monitors),* MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*)*,* MM CUL-8 (*Unanticipated Discoveries*), and MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*) are recommended to lessen the overall impact, however, not to a less than significant level. Therefore, impacts to unanticipated buried resources are considered significant and unavoidable (Class I).

Phase 2

Phase 2 activities include continued demolition of the Discharge Structure, soil remediation, backfilling, grading, removal of the Avila Gate and Guard House Facilities (at Avila Beach Drive/ Diablo Canyon Road), and landscaping in order to restore the DCPP site to natural conditions as well as continued operations (use of the Security Building, and indoor Firing Range). Phase 2 also proposes to establish a blufftop road at the end of DCPP decommissioning to connect Shore Cliff Road with North Ranch Road/Pecho Valley Road. No Phase 2 activities involving ground disturbing activities are proposed within the PBR or SMVR-SB sites.

Archaeology

<u>DCPP Project Site</u>

As described above, two historical resources (CA-SLO-2 and CA-SLO-61) are located within the area of proposed Phase 2 activities but outside of the Discharge Structure removal area. Soil

remediation of an approximately 2,060 square foot former sand blast area may occur within the boundaries of CA-SLO-2, which could significantly impact the site. PG&E would not know if this area needs to be remediated until after Units 1 and 2 cease operating, when they complete a soil characterization study. Due to immense grading and use of CA-SLO-2 as a laydown area for the construction of DCPP, the site is heavily disturbed. Superficial soil remediation of a heavily disturbed portion of the site would not significantly impact the sites integrity. However, given the sensitivity of this site, if soil remediation extends into native soils under the former sand blast area, which potentially could have intact deposits, these deposits could be damaged or destroyed resulting in a potentially significant impact to the sites integrity. PG&E would complete awareness training as part of the Proposed Project (AC CR-2, *Worker's Environmental Awareness Training – Cultural and Paleontological Resources*); however, this training focuses more on paleontology. Therefore, implementation of MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 *(Retain Chumash Tribal Monitors)*,MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), and MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*) would lessen the overall impact, however, not to a less than significant level. Therefore, impacts are considered significant and unavoidable (Class I).

Built Environment

With no specifically identified individual buildings or structures, nor DCPP as a whole, meeting the criteria for listing on the NRHP or CRHR, the DCPP site does not contain any historical built environment resource(s) for the purposes of CEQA. As there would be no direct or indirect impacts on built environment historical resources, the proposed Project would not cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5. Therefore, no historical built environment resources would be impacted.

Unanticipated Buried Resources

Due to the sensitive nature of the DCPP site, the potential for encountering unanticipated buried resources is highly probable even in previously disturbed areas. In the event an unanticipated buried resource is encountered during Phase 2 activities, and if the currently unidentified resource were determined to be eligible for listing in the CRHR, the Proposed Project activities could result in a significant impact to the resource. PG&E would complete awareness training as part of the Proposed Project (AC CR-2, *Worker's Environmental Awareness Training – Cultural and Paleontological Resources*); however, this training focuses more on paleontology. Therefore, implementation of MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), and MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House*

Facilities) would lessen the overall impact, however, not to a less than significant level. Therefore, impacts are considered significant and unavoidable (Class I).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Project operations do not have the potential to directly impact known historical resources as decommissioning activities would be completed.

Future Actions. If the Marina is operated by a third party, public restrooms would be provided and supported by a septic and dispersal system that is appropriately sized for the Marina uses. PG&E's expectation is these wastewater systems would be located within existing developed areas of the DCPP site. Given the sensitivity of the DCPP site, any ground disturbance could cause impacts to unknown buried resources. Additionally, permitting and use of the Marina by a third party could cause indirect impacts to known historical resources, since members of the public would be allowed to explore the area and could stumble upon a known significant resource, increasing the risk of looting. The long-term effects of looting could significantly impact known historical resources. Establishing Environmentally Sensitive Areas (ESAs) and restricting public access through physical barriers and signage would limit the potential for the public to identify historical resources. Therefore, implementation MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 *(Retain Chumash Tribal Monitors)*, MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities)* and MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas During Marina Operations*) would reduce the direct and indirect impacts to less than significant (Class II).

Mitigation Measures for Impact CUL-1.

CUL-1 **Retain County-qualified Project Archaeologist.** Prior to issuance of any County Grading or Construction Permit, a Project Archaeologist whose training and background conforms to the US Secretary of the Interior's Professional Qualifications Standards, as published in Title 36, Code of Federal Regulations, part 61 (36 C.F.R., part 61) shall be retained by the Applicant or its designee to prepare and implement a Cultural Resources Monitoring and Discovery Plan, the Cultural Resources Environmental Awareness Training, and manage all cultural resources monitoring, mitigation, and curation activities for the Project. The qualifications of the Project Archaeologist shall be appropriate to the needs of the Project and demonstrate prior experience on the Central Coast of California. A copy of the Project Archaeologist's qualifications shall be provided to the County of San Luis Obispo Planning and Building Department (County) for review and approval. The Project Archaeologist's qualifications shall be provided by the County to the Tribes designated point of contact with whom the County conducted Assembly Bill (AB) 52 consultation for the Project (hereinafter

referred to as "appropriate consulting Tribes") for review and comment prior to approval by the County.

CUL-2 **Retain County-qualified Project Archaeological Monitors.** Prior to issuance of any County Grading or Construction Permit, Project Archaeological Monitors shall be retained by the Applicant or its designee to assist in the monitoring, mitigation, and curation activities for the Project. The Monitors shall have the following minimum qualifications:

1. A BS or BA degree in anthropology, archaeology, historic archaeology, or a related field and two years' experience monitoring in California including demonstrated experience with coastal cultural resources. Preference will be given to those with demonstrated experience along the coast of Central California; or
2. An AS or AA degree in anthropology, archaeology, historic archaeology, or a related field and four years' experience monitoring in California including demonstrated experience with coastal cultural resources. Preference will be given to those with demonstrated experience along the coast of Central California; or
3. A BS or BA degree and enrollment in graduate level classes pursuing a Master's degree in the fields of anthropology, archaeology, historic archaeology, or a related field and two years of monitoring experience in California including demonstrated experience with coastal cultural resources. Preference will be given to those with demonstrated experience along the coast of Central California. If the Monitor's undergraduate degree is not in anthropology, archaeology, or a related field, two graduate classes in anthropology or archaeology must have been completed prior to the Monitor working on site.

A Monitor with a degree in historic archaeology must also have completed coursework in anthropology or archaeology and have demonstrated experience monitoring for California prehistoric archaeological resources.

A copy of each Monitor's qualifications shall be provided to the County for review and approval. Each Monitor's qualifications shall be provided by the County to the appropriate consulting Tribes for review and comment prior to approval by the County.

CUL-3 **Retain Chumash Tribal Monitors.** Prior to issuance of any County Grading or Construction Permit, Chumash Tribal Monitors from appropriate consulting Tribes shall be retained by the Applicant or its designee to assist in the monitoring, mitigation, and curation activities for the Project.

CUL-4 **Retain a Project Osteologist.** Prior to issuance of any County Grading or Construction Permit, a Project Osteologist shall be retained by the Applicant or its designee to assist in the identification of any human remains. The Project Osteologist shall have the following minimum qualifications:

1. A graduate degree in archaeology, forensic anthropology, or related discipline, with four years' experience working with archaeological and Tribal Cultural resources in California.

If an Osteologist with four years' experience is not available, a candidate with no less than two years' experience may be considered.

A copy of the Project Osteologist's qualifications shall be provided to the County for review and approval. The Project Osteologist's qualifications shall be provided by the County to appropriate consulting Tribes for review and comment prior to approval by the County.

CUL-5 **Develop a Cultural Resources Monitoring and Discovery Plan.** Prior to issuance of any County Grading or Construction Permit, the Project Archaeologist shall develop and submit a Cultural Resources Monitoring and Discovery Plan (CRMDP) to the County for review and approval. No ground disturbing activities can occur until the CRMDP is approved by the County. A draft of the CRMDP shall be provided by the County to the appropriate consulting Tribes and an independent third-party County-qualified archaeologist for a 45-day review and comment period. No ground disturbance can occur before approval of any construction-related permits by the County.

At a minimum, the CRMDP shall include the following:

- An introduction outlining the project description, purpose for monitoring, summary of resources studies or description of known resources, anticipated construction schedule, anticipated impacts to cultural resources, curation and treatment options. Permanent curation of Tribal Cultural Resources will not take place unless approved in writing by the appropriate consulting Tribes.
- A description of the monitoring personnel involved with the Project (Project Archaeologist, Archaeological Monitors, and Chumash Tribal Monitors) and their responsibilities, which shall include but are not limited to:
  - A list of personnel involved in the monitoring activities and their availability;
  - A description of how the monitoring shall occur;
  - A description of how the monitoring schedule will be developed and implemented given that different areas of ground disturbance may occur simultaneously;
  - A description of what resources are expected to be encountered and where they are expected to be encountered; and
  - A description of monitoring reporting procedures.
- A description of the Cultural Resources Worker Environmental Awareness Program training (see MM CUL-6) and when and how that will take place.
- Identification of the areas on the site, plus a buffer, where earthwork and site disturbance will be avoided. This should include the following:
  - A description of the exclusion zone which shall be placed around each avoidance area and labeled as "Environmentally Sensitive Area" in all relevant project documents and engineering drawings, as needed. Environmentally Sensitive Areas shall exclude all construction equipment and personnel. Exclusion zone fencing

shall be installed prior to any site disturbance (and later removed) under the direction of the Project Archaeologist in consultation with the County and the appropriate consulting Tribes. The construction contractor will be responsible for maintaining the exclusion zone fencing throughout the duration of decommissioning.

- Definition and description of authorities, protocols, and procedures for halting and/or pausing work in order to record, evaluate, and identify any necessary treatment for any cultural resources encountered. This shall include protocols for ensuring all treatment or recovery of cultural resources is completed prior to work resuming in the area of the find.
- Information that the Project Archaeologist, Archaeological Monitor(s), and the Chumash Tribal Monitor(s) shall have the authority to halt ground disturbing activities in the event previously unknown cultural resources are encountered or if known resources may be impacted in a previously unanticipated manner as a result of that ground disturbing activity.
- Details regarding the immediate cessation of ground disturbing activities within a minimum of 100 feet of the discovery of any cultural resources or human remains and measures to delineate the area with clearly visible lath, flagging tape, or other marking. The County and the appropriate consulting Tribes shall be consulted on a determination of significance.
- Notification procedures of unanticipated discoveries of cultural resources including human remains (see MM CUL-8 and MM CUL-9). The County and appropriate consulting Tribes shall be notified of a discovery as soon as possible but no later than 24 hours of the find. If the discovery occurs on a Friday, the County can be notified the following Monday morning.
- Specific in-field procedures for collecting, handling, and categorizing cultural resources, including human remains, encountered and a detailed process for evaluating unanticipated discoveries.
- Development of a preliminary treatment plan which shall, at a minimum, include:
  - A description of the treatment options for each type of resource which include, in order of priority: 1) preservation in place, where feasible; 2) the development of a treatment plan, archaeological testing, or data recovery; 3) reburial as close as possible to the location where all artifacts, remains, and/or funerary objects were found; and 4) reburial in a predetermined area. Any Chumash cultural materials disinterred as a result of this Project shall be curated or reinterred upon determination by the MLD after notification to the appropriate consulting Tribes. Reinternment shall be conducted on a weekly basis or as deemed appropriate by the MLD after notification to the appropriate consulting Tribes.
  - The location of a secured, on-site storage area for recovered artifacts and human remains shall be identified before any ground disturbing activities occur. The

location shall be determined in consultation with the appropriate consulting Tribes.

- In the event of a human remains discovery, the County and appropriate consulting Tribes shall be notified no later than 24 hours of the find along with one of the proposed treatment options outlined above, by the MLD, in consultation with the Applicant. The County and appropriate consulting Tribes shall be given 72 hours from the time of notification to provide comments on the proposed treatment option to the MLD.
- For the predetermined area for reburial of human remains and artifacts, the location must be surveyed in advance of its inclusion in the CRMDP, to determine if the location may be used (i.e., there are no biological and/or cultural/tribal resources sensitivities). In addition, the location must be limited to the reburial of human remains and artifacts from the Diablo Canyon Power Plant site. Lastly, the location must be under a deed restriction, protecting any reburials of human remains and artifacts in perpetuity.
- A commitment from the Applicant to pay all treatment costs for artifacts, funerary objects, and remains discovered, from discovery to reinternment, and for related documentation produced, if any, during cultural resources investigations conducted for the Project.

- Procedures for the Project Archaeologist, the Applicant, or its contractors to provide immediate notification to the County of San Luis Obispo Planning and Building Department and the appropriate consulting Tribes and immediately cease any earthwork conducted outside the limits of the approved grading plan or land use permit as these activities require prior approval by the County.
- Outline of reporting procedures, including monthly summary reports and an annual archaeological monitoring report to be submitted by the Project Archaeologist to the County of San Luis Obispo Planning and Building Department and appropriate consulting Tribes for review throughout the duration of Project disturbance activities. The County shall provide copies of the plan to the appropriate consulting Tribes for review. Formal technical reports are required for any archaeological testing or data recovery conducted. Annual archaeological monitoring reports and any technical testing or data recovery reports shall be submitted to the County and Central Coast Information Center. Upon completion of all monitoring or treatment activities at Project completion, the Project Archaeologist shall submit a final report under confidentiality to the County summarizing all monitoring/treatment activities. The County shall provide copies of the confidential final report to the appropriate consulting Tribes.
- PG&E or its designee(s) will consult with the County and appropriate consulting Tribes to develop measures for long term management of the resources including any routine operation and maintenance that may need to occur within culturally sensitive areas that retain resource integrity, including tribal cultural integrity, and including archaeological material, Traditional Cultural Properties, and cultural land-

scapes, in accordance with state and federal guidance including National Register Bulletin 30 (Guidelines for Evaluating and Documenting Rural Historic Landscapes), Bulletin 36 (Guidelines for Evaluating and Registering Archaeological Properties), and Bulletin 38 (Guidelines for Evaluating and Documenting Traditional Cultural Properties.

CUL-6 **Cultural Resources Worker Environmental Awareness Program.** Prior to and for the duration of any ground disturbance, the Applicant or its designee shall provide Cultural Resources Worker Environmental Awareness Program (WEAP) training to all new workers prior to any new worker beginning work on the DCPP, PBR, and SMVR-SB sites.

The training program shall be developed by the Project Archaeologist with input from appropriate consulting Tribes and may be presented in the form of a video. A draft of the training program shall be provided to the County of San Luis Obispo Planning and Building Department for review and approval no fewer than 135 days prior to any ground disturbance at the DCPP, PBR, or SMVR-SB sites. A draft of the training program (i.e., video and written materials shall be provided by the County to the appropriate consulting Tribes for a 45-day review and comment period, prior to approval by the County. The training may be conducted concurrent with other environmental training (e.g., biological resources awareness training, safety training, etc.).

The training shall include, at a minimum:

- An overview by a tribal member from the appropriate consulting Tribes;
- A description of the types of Tribal Cultural Resources, archaeological, and cultural resources that may be encountered during decommissioning;
- Steps to follow in the event of an unanticipated discovery;
- Contact information for the County of San Luis Obispo Planning and Building Department, Project Archaeologist, Archaeological and Chumash Tribal Monitors and appropriate consulting Tribes;
- Samples or visual of artifacts that might be found on the site;
- Information that the Project Archaeologist, Archaeological Monitors, and Chumash Tribal Monitors shall have the authority to halt ground disturbing activities in the event previously unknown, or suspected cultural resources are encountered or if known resources may be impacted in a previously unanticipated manner as a result of that ground disturbing activity;
- Instructions that workers are to halt work on their own within 100-feet of a potential cultural resource discovery, shall contact their supervisor and the Project Archaeologist or Archaeological Monitor, and that redirection of work shall be determined by the Project Archaeologist and Chumash Tribal Monitors;
- Emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and discuss appropriate behaviors and responsive actions, consistent with Native American tribal values;

- An information brochure that identifies reporting procedures in the event of a discovery;
- An acknowledgement form signed by each worker indicting that the worker has received the training and will abide by the Project requirements; and
- A sticker that shall be placed on hard hats indicating that environmental training has been completed.

The Applicant or its designee shall provide, within a Project Monthly Compliance Report (see MM CUL-7), the WEAP training acknowledgement forms for persons who have completed the training in the prior month and a running total of all persons who have completed the training to date.

CUL-7 **Archaeological and Tribal Monitoring.** During and throughout all decommissioning activities, Archaeological Monitors and Chumash Tribal Monitors shall conduct full-time on-site monitoring during all ground disturbing activities, including those occurring in previously disturbed soil, soil sampling associated with the soil characterization study, and Final Status Surveys. Additionally, any decommissioning activity that occurs within the boundary of a known archaeological site shall be monitored by an Archaeological Monitor(s) and Chumash Tribal Monitor(s). Monitoring may not be required during hydroseeding or paving activities, unless an exception is demonstrated as warranted by the Project Archaeologist and approved by the County of San Luis Obispo Planning and Building Department, after consultation with the appropriate consulting Tribes.

Where multiple areas of work are concurrently permitted for grading or disturbance, or where multiple pieces of equipment are operating within the same work area, there shall be multiple monitors, at least one for each area, and a sufficient number of Archaeological Monitors and Chumash Tribal Monitors shall be onsite to ensure all concurrent decommissioning activities are monitored. The Chumash Tribal Monitors may be rotated to ensure that all appropriate consulting Tribes can observe the areas of work. The Project Archaeologist shall be responsible for creating monitoring schedules for the Archaeological Monitors and Chumash Tribal Monitors, and specifying the locations where they will monitor.

The Archaeological Monitors shall work under the direction of the Project Archaeologist and shall submit daily logs detailing the types of decommissioning activities, soils observed, and any discoveries to the Project Archaeologist. The daily log shall also identify the nature of any resource found and the method of mitigation treatment. The Project Archaeologist shall prepare a weekly summary report, with all daily monitoring logs appended, on the progress or status of cultural resources related activities which shall be provided to the appropriate consulting Tribes on a weekly basis. The weekly summary reports shall be provided to the County of San Luis Obispo Planning and Building Department in the Project Monthly Compliance Report.

Cultural resources monitoring activities are the responsibility of the Project Archaeologist. Any interference with monitoring activities, removal of a monitor from duties

assigned by the Project Archaeologist, or direction to a monitor to relocate or cease monitoring activities by anyone other than the Project Archaeologist shall be considered a non-compliance event. In the event a Chumash Tribal Monitor is dismissed from monitoring and the County of San Luis Obispo Planning and Building Department determines this to be in error, the Chumash Tribal Monitor will be compensated for time lost by the Applicant. Any disagreements between the Project Archaeologist and Chumash Tribal Monitors shall be brought to the County of San Luis Obispo Planning and Building Department's attention for resolution.

The Project Archaeologist or appropriate consulting Tribes shall notify the Applicant and the County of San Luis Obispo Planning and Building Department by telephone or email, of any incidents of non-compliance with any cultural resource mitigation measure or condition within 24 hours of becoming aware of the situation. The Project Archaeologist and appropriate consulting Tribes shall also recommend corrective action(s) to resolve the problem or achieve compliance with the mitigation measure or project condition.

In the event of a non-compliance issue, the Project Archaeologist shall write a report within two weeks after resolution of the issue that describes the issue, resolution of the issue, and the effectiveness of resolution measures. The report shall be provided in the next Monthly Compliance Report, which is submitted to the County. The Applicant or its designee shall also provide a copy of the non-compliance report to the consulting Tribe when issued to the County.

CUL-8 **Unanticipated Discoveries.** In the event that inadvertent/unanticipated Tribal Cultural Resources, archaeological, or cultural resources are exposed during decommissioning, all ground disturbing activity occurring within a minimum of 100 feet of the find shall immediately stop until the Project Archaeologist, Archaeological Monitor, and Chumash Tribal Monitor(s) can evaluate the significance of the find and determine, in consultation with the County of San Luis Obispo Planning and Building Department, whether additional study is warranted, including any efforts necessary to delineate the resource boundary.

The area of the discovery shall be delineated with clearly visible lath, flagging tape, or other marking and the County of San Luis Obispo Planning and Building Department notified within 24 hours of a discovery. If the discovery occurs on a Friday, the County can be notified the following Monday morning.

Depending upon the significance of the find, the Project Archaeologist or Archaeological Monitor and Chumash Tribal Monitor may record the find and allow work to continue. The County of San Luis Obispo Planning and Building Department shall be consulted on a determination of significance. If the discovery proves significant under the California Environmental Quality Act (CEQA), every effort will be made to preserve the resource in place, if possible. If avoidance/preservation in place is not feasible, specific resource documentation or recovery shall be implemented in accordance with the treatment options in the CRMDP (see MM CUL-5), including, but not limited to, the preparation of a treatment plan, archaeological testing, or data recovery.

During the assessment and potential treatment time, construction work may proceed in other areas outside the minimum 100-foot buffer consistent with MM CUL-5. Work at the discovery location cannot resume until all necessary investigation and evaluation under CEQA, Tribal consultation, and/or the procedures under PRC Section 5097.98 and Health and Safety Code Section 7050.5 have been satisfied and released by the County of San Luis Obispo Planning and Building Department.

CUL-9 **Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources.** Any decommissioning activities affecting previously known cultural and/or tribal resources, with the exception of soil sampling associated with the Site Characterization Study and Final Status Surveys, may not impact native soils.

In areas where cultural and/or Tribal Cultural Resources have previously been identified, heavy-duty equipment protection mats must be used where vehicles and/or heavy equipment is necessary for removal of any aboveground power plant infrastructure on non-paved areas.

The Applicant or its designee shall consult with the County Department of Planning and Building prior to conducting any soil remediation activities which could affect native soils and provide the County with adequate information to determine compliance with CEQA Guidelines Sections 15162-15164 and PRC §21074. The County shall consult with the appropriate consulting Tribes prior to approving any soil remediation activities affecting previously known cultural and/or tribal resources.

CUL-10 **Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities.** Prior to the removal of the guard, guard tower, and gate located at the Diablo Canyon Road entrance off of Avila Beach Drive (estimated to occur in 2035 as part of Phase 2), the Applicant or its designee shall develop a plan that details how public access will be restricted to the DCPP site once the guard, guard house, and gate are removed. Signs and gated barriers shall remain in place at Diablo Canyon Road, and Montaña de Oro State Park along North Ranch Road/Pecho Valley Road to cover the two potential access points to the DCPP site.

The intent of this plan is to reduce the potential for indirect impacts to cultural resources from increased and unrestricted public access. Other methods (e.g., signage, additional checkpoints or barriers) shall also be identified to inform and notify unintended visitors that the DCPP site is still not open to the public once the guard, guard house, and gate are removed. A draft of the plan shall be provided to the County for review and comment. This plan shall also be provided by the County to the appropriate consulting Tribes for a 45-day review and comment period prior to approval by the County.

At a minimum, the plan shall include the following:

- A description of what type of restriction(s) will be used (e.g., road barricades, no trespassing signs, temporary security guards, etc.) and a figure showing where public access restrictions will be established on the DCPP site.

- Road barriers at property boundaries to restrict and monitor uninvited access to the DCPP site.
- Signage at the intersection of Avila Beach Drive and Diablo Canyon Road that informs the public of limited access along Diablo Canyon Road to deter use of this road to access the DCPP site.
- A description of how and what restrictions will be used to monitor and restrict access to the DCPP site during weekends or when limited remaining decommissioning activities are taking place.

CUL-11 **Restrict Access to Environmentally Sensitive Areas for Marina Operations.** Prior to applying for construction or building permits to conduct any Marina improvements, the Third-Party Marina Improvements Applicant(s) or its designee(s) shall establish a plan that (1) cites all known culturally and/or archaeologically sensitive site locations at the DCPP site as Environmentally Sensitive Areas (ESAs), and (2) requires access to these areas to be restricted. Access shall be limited through the use of visible signage, wildlife friendly fencing (i.e., allows for the continued access and/or passage by wildlife), and natural barriers (e.g., boulders or native plants that can be used to block off areas and deter access), which should blend in with the existing sites and/or future Marina use at the DCPP site. The Third-Party Marina Improvements Applicant(s) shall provide the County a plan for review and approval prior to implementation and with documentation of the establishment of the ESAs, signage, fencing, and barriers. The plan will be provided by the County to the appropriate consulting Tribes for a 45-day review and comment period, prior to approval by the County.

Additionally, the Third-Party Marina Improvements Applicant(s) or its designee(s) will consult with the County and appropriate consulting Tribes to develop measures for long term management of the resources including any routine operation and maintenance that may need to occur within culturally sensitive areas that retain resource integrity, including tribal cultural integrity, and including archaeological material, Traditional Cultural Properties, and cultural landscapes, in accordance with state and federal guidance including National Register Bulletin 30 (Guidelines for Evaluating and Documenting Rural Historic Landscapes), Bulletin 36 (Guidelines for Evaluating and Registering Archaeological Properties), and Bulletin 38 (Guidelines for Evaluating and Documenting Traditional Cultural Properties.

Residual Impacts. Given the archaeological sensitivity of the area, although Proposed Project impacts to historical resources during Phases 1 and 2 of the Proposed Project would be reduced through the above mitigation measures, no mitigation is available to avoid significantly impacting previously unidentified resources. Impacts for Phases 1 and 2 of the Proposed Project would remain significant and unavoidable (Class I).

Impact CUL-2: Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5 (Class I: Significant and Unavoidable).

Phase 1

The proposed activities for Phase 1 of decommissioning generally include the removal of utilities, demolition of existing buildings, removal of security fencing, removal of the road segment west of the security fence at the Discharge Structure, removal of the guard rails along the road segment, and demolition of the Discharge Structure. All activities are ground disturbing and require the use of conventional excavation machinery. The railyard activities would include refurbishment of 1,100 feet of an existing spur rail at the PBR. At the SMVR-SB site, the proposed decommissioning activities include refurbishment of existing rail spurs, use of steel road plates or installation of engineered fill, and installation of perimeter fencing. No ground disturbing activities that would impact native soils are proposed in either of the railyards.

Archaeology

Based on the information provided in Section 4.5.1.6, *Cultural Resources Findings Summary*, no known unique archaeological resources are present on the DCPP site, PBR, or SMVR-SB. Therefore, no known unique archaeological resources would be directly or indirectly impacted by the Proposed Project.

Unanticipated Buried Resources

Due to the sensitive nature of the DCPP site, the potential for encountering unanticipated buried resources is highly probable even in previously disturbed areas. In the event an unanticipated buried resource is encountered, and if the currently unidentified resource were determined to be a unique archaeological resource, the Proposed Project activities could result in a significant impact to the resource. PG&E would conduct environmental awareness training as part of the Proposed Project (AC CR-2, *Worker's Environmental Awareness Training – Cultural and Paleontological Resources*); however, this training focuses more on paleontology. Therefore, implementation of MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), and MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*) would lessen the overall impact, however, not to a less than significant level. Therefore, impacts are considered significant and unavoidable (Class I).

Phase 2

Proposed Phase 2 of the Proposed Project is described as continued Discharge Structure removal and a final site restoration phase. Restoration activities include soil remediation, backfilling, grading, landscaping to restore the site to natural conditions within the DCPP site, as well as continued operations (use of the Security Building, and indoor Firing Range). Phase 2 also proposes to establish a Blufftop road segment at the end of DCPP decommissioning to connect Shore

Cliff Road with North Ranch Road/Pecho Valley Road. No Phase 2 activities are proposed within the railyards.

Archaeology

As stated above, no known unique archaeological resources are present on the DCPP site. Therefore, no known unique archaeological resources would be directly or indirectly impacted.

Unanticipated Buried Resources

As previously noted, due to the sensitive nature of the DCPP site, the potential for encountering unanticipated buried resources is highly probable even in previously disturbed areas. In the event an unanticipated buried resource is encountered, and if the currently unidentified resource were determined to be a unique archaeological resource, the Proposed Project activities could result in a significant impact to the resource. PG&E would conduct environmental awareness training as part of the Proposed Project (AC CR-2, *Worker's Environmental Awareness Training – Cultural and Paleontological Resources*); however, this training focuses more on paleontology. Therefore, implementation of MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors),* MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), and MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*) would lessen the overall impact, however, not to a less than significant level. Therefore, impacts are considered significant and unavoidable.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Project operations do not have the potential to directly impact unique archaeological resources as there is little to no ground disturbance associated with continued operations and no known unique archaeological resources have been identified on the DCPP site.

Future Actions. If the Marina is operated by a third party, public restrooms would be provided and supported by a septic and dispersal system that is appropriately sized for the Marina uses. PG&E's expectation is these wastewater systems would be located within existing developed areas of the DCPP site. Additionally, permitting and the use of the Marina by a third party could cause indirect impacts to unknown unique archaeological resources, since members of the public would be allowed to explore the area and could stumble upon unknown artifacts that could be considered unique archaeological resources. Removing unique archaeological resources from their original context could be considered a significant impact. Establishing Environmentally Sensitive Areas (ESAs) around sensitive areas and restricting public access through physical barriers and signage would limit the potential for the public to identify resources. Therefore, implementation of MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain*

County-qualified Project Archaeological Monitors), MM CUL-3 (*Retain Chumash Tribal Monitors),* MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), and MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas During Marina Operations*) would reduce the impacts to less than significant (Class II).

Mitigation Measures for Impact CUL-2. See Impact CUL-1 for text of measures.

CUL-1 Retain County-qualified Project Archaeologist

CUL-2 Retain County-qualified Project Archaeological Monitors

CUL-3 Retain Chumash Tribal Monitors

CUL-4 Retain a Project Osteologist

CUL-5 Develop a Cultural Resources Monitoring and Discovery Plan

CUL-6 Cultural Resources Worker Environmental Awareness Program

CUL-7 Archaeological and Tribal Monitoring

CUL-8 Unanticipated Discoveries

CUL-9 Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources

CUL-10 Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities

CUL-11 Restrict Access to Environmentally Sensitive Areas for Marina Operations

Residual Impacts. Given the archaeological sensitivity of the area, although impacts to unique archaeological resources for Phases 1 and 2 of the Proposed Project would be reduced through the above mitigation measures, no mitigation is available to avoid significantly impacting previously unidentified resources. Impacts during Phases 1 and 2 of the Proposed Project would remain significant and unavoidable (Class I).

Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries (Class I: Significant and Unavoidable).

Phase 1

The proposed activities for Phase 1 of decommissioning generally include the removal of utilities, demolition of existing buildings, removal of security fencing, removal of the road segment west of the security fence at the Discharge Structure, removal of the guard rails along the road segment, and demolition of the Discharge Structure. As mentioned previously, CA-SLO-2 and CA-SLO-61 are located within the area of proposed decommissioning activities but outside of any identified cut and fill locations or the Discharge Structure removal area. All activities are ground

disturbing and require the use of conventional excavation machinery. The railyard activities would include refurbishment of 1,100 feet of an existing spur rail at the PBR. At SMVR-SB, the proposed decommissioning activities include refurbishment of existing rail spurs, use of steel road plates or installation of engineered fill, and installation of perimeter fencing. No ground disturbing activities that would impact native soils are proposed in any of the railyards.

Archaeology

DCPP Project Site

A review of recent technical reports prepared for the DCPP Decommissioning Project identified human remains on the DCPP project site (PG&E, 2020; PG&E, 2021). Human remains were recorded within both CA-SLO-2 and CA-SLO-61.

CA-SLO-2. Phase 1 decommissioning activities within CA-SLO-2 include removal of an existing 230 kV TSP and the two guy wire anchors for that pole. Footings for the TSP and guy wire anchors would be abandoned in place and no excavations would occur. Therefore, the proposed Phase 1 decommissioning activities would not directly or indirectly impact known human remains within CA-SLO-2.

CA-SLO-61. Phase 1 decommissioning activity within CA-SLO-61 include removal of an existing security fence surrounding the nuclear reactors. A portion of the existing security fence is within the boundary of CA-SLO-61, which is currently paved over. The security fence would be removed to grade, and the fence post footings removed by being pulled directly out of the ground without excavating around them, then backfilled with clean fill. Alternately, the fence footings within the site boundaries could be abandoned in place, with only the top 3 to 6 inches of the footing removed to allow for a consistent grade and eventual paving. Since these activities would not involve the excavation of soils, these proposed activities would not directly nor indirectly impact known human remains within CA-SLO-61.

Railyards

Pismo Beach Railyard. There are two previously recorded sites within the Pismo Beach Railyard boundary, CA-SLO-81 and CA-SLO-832, with CA-SLO-832 having documented human remains. Phase 1 would include rail refurbishment, which does not include ground disturbing activities. CA-SLO-832 is located far west of the proposed spur rail refurbishment, and therefore would not be directly or indirectly impacted by the proposed activities, nor would any human remains associated with CA-SLO-832 site be impacted.

SMVR-SB. No subsurface excavations are proposed at the SMVR-SB site. Additionally, no human remains, including those interred outside of formal cemeteries, were identified through a record search or archaeological survey. Therefore, the proposed Phase 1 activities would not directly or indirectly impact known human remains.

Unanticipated Buried Resources

Due to the sensitive nature of the DCPP site, the potential for encountering unanticipated buried resources, including human remains, is highly probable even in previously disturbed areas. In the

event unanticipated human remains are encountered, the Proposed Project activities could result in a significant impact to the resource. PG&E would conduct environmental awareness training as part of the Proposed Project (AC CR-2, *Worker's Environmental Awareness Training – Cultural and Paleontological Resources*); however, this training focuses more on paleontology. Therefore, Implementation of MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), and MM CUL-12 (*Discovery of Human Remains*) would lessen the overall impact, however, not to less than significant. Therefore, impacts are considered significant and unavoidable (Class I).

Phase 2

Restoration activities under Phase 2 includes continued removal of the Discharge Structure, soil remediation, backfilling, grading, landscaping to restore the DCPP site to natural conditions, as well as continued operations (use of the Security Building, indoor Firing Range, and use of the Marina by a third party). Phase 2 also proposes to establish a blufftop road at the end of DCPP decommissioning to connect Shore Cliff Road with North Ranch Road/Pecho Valley Road. No Phase 2 activities are proposed within the railyards.

Archaeology

DCPP Project Site

As described above, one historical resource with documented human remains (CA-SLO-2) is located within the area of proposed Phase 2 activities, but outside of the Discharge Structure removal area. Soil remediation of an approximately 2,060 square foot former sand blast area may occur within the boundaries of CA-SLO-2. PG&E would not know if this area needs remediation until after Unit 1 and Unit 2 cease operations, when they complete a soil characterization study. Due to immense grading and use of CA-SLO-2 as a laydown area for the construction of DCPP, the site is heavily disturbed. Assuming PG&E remediates the former sand blast area using traditional mechanical equipment, the superficial soil remediation of a heavily disturbed portion of the site would not likely disturb human remains. However, given the sensitivity of this site, it is possible that intact deposits or isolated human remains could exist under the former sand blast area, should the soil remediation extend into native soils, which could be damaged or destroyed, resulting in a potentially significant impact. Implementation of MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Develop and Implement a Cultural Resources Environmental Awareness Training*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), and MM CUL-12 (*Discovery of Human Remains*) would lessen the overall impact, however, not to a less than significant level. Therefore, impacts are considered significant and unavoidable (Class I).

Unanticipated Buried Resources

Due to the sensitive nature of the DCPP site, the potential for encountering unanticipated buried resources is highly probable even in previously disturbed areas. In the event unanticipated human remains are encountered, the Proposed Project activities could result in a significant impact to the resource. PG&E would conduct environmental awareness training as part of the Proposed Project (AC CR-2, *Worker's Environmental Awareness Training – Cultural and Paleontological Resources*); however, this training focuses more on paleontology. PG&E has also outlined procedures to follow in the event of an unanticipated discovery of human remains as part of the Proposed Project (AC CR-1, *Discovery of Human Remains*); however, the proposed mitigation measure below includes additional information, such as the establishment of a buffer zone to reduce potential impacts. Therefore, implementation of MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 *(Retain Chumash Tribal Monitors)*, MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), and MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*) and MM CUL-12 (*Discovery of Human Remains*) would lessen the overall impact, however, not to a less than significant level. Therefore, impacts are considered significant and unavoidable (Class I).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Project operations do not have the potential to directly or indirectly impact human remains as there is little to no ground disturbance associated with continued operations.

Future Actions. If the Marina is operated by a third party, public restrooms would be provided and supported by a septic and dispersal system that is appropriately sized for the Marina uses. PG&E's expectation is these wastewater systems would be located within existing developed areas of the DCPP site. Given the sensitivity of the DCPP site any ground disturbance could cause impacts to unknown buried resources including human remains. Therefore, implementation of MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 *(Retain Chumash Tribal Monitors)*, MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), and MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas During Marina Operations*), and MM CUL-12 (*Discovery of Human Remains*), would reduce the direct impacts to less than significant (Class II).

Mitigation Measures for Impact CUL-3. See Impact CUL-1 for text of measures.

CUL-1 Retain County-qualified Project Archaeologist

CUL-2 Retain County-qualified Project Archaeological Monitors

CUL-3 Retain Chumash Tribal Monitors

CUL-4 Retain a Project Osteologist

CUL-5 Develop a Cultural Resources Monitoring and Discovery Plan

CUL-6 Cultural Resources Worker Environmental Awareness Program

CUL-7 Archaeological and Tribal Monitoring

CUL-8 Unanticipated Discoveries

CUL-9 Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources

CUL-10 Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities

CUL-11 Restrict Access to Environmentally Sensitive Areas for Marina Operations

CUL-12 Discovery of Human Remains. In the event human remains are discovered during decommissioning all Project activity shall immediately cease with a minimum of 100 feet of the discovery site, and the area delineated with clearly visible lath, flagging tape, or other marking. The County and appropriate consulting Tribes must be notified within 24 hours of the find as outlined in the CRMDP (see MM CUL-5 above). The Applicant or its designee shall comply with Section 15064.5 (e) (1) of the State CEQA Guidelines, and the procedures described in Section 7050.5 of the California Health and Safety Code. The Project Archaeologist and Project Osteologist with a Chumash Tribal Monitor shall inspect the remains and confirm that they are human, and if so, shall immediately notify the County Coroner in accordance with PRC Section 5097.98 and Health and Safety Code Section 7050.5. Treatment, handling, and storage of remains will follow the protocols outlined in the CRMDP (see MM CUL-5 above).

If the coroner determines the remains are Native American, the coroner shall contact the Native American Heritage Commission (NAHC). As provided in PRC Section 5097.98, the NAHC will notify the person or persons it believes to be the Most Likely Descendent (MLD) from the deceased Native American. The MLD must follow the procedures and preliminary treatment options in the CRMDP and make a recommendation to the County and appropriate consulting Tribes for means of treating, with appropriate dignity, the human remains, and any associated grave goods as provided in PRC Section 5097.98 and as outlined in MM CUL-5 above. If more than one MLD is designated for the Project by the NAHC, each MLD shall be consulted regarding the handling of the human remains, and any associated grave goods and/or burial related soils. Burial associated grave goods and soil shall be reinterred with the associated burial.

Only the Project Archaeologist, Archaeological Monitors, Chumash Tribal Monitors, the County Coroner, and PG&E construction managers shall be permitted within 100 feet of the discovery site. Additional personnel may be allowed, as determined by the Project Archaeologist, the Chumash Tribal Monitors, and appropriate consulting Tribes. No photos should occur outside of immediate use (those taken by the Project Archaeologist and sent to the Project Osteologist) in determining if the remains are human and potentially Native American.

Residual Impacts. Given the archaeological sensitivity of the area, although impacts to human remains at the DCPP site for Phases 1 and 2 of the Proposed Project would be reduced through the above mitigation measures, no mitigation is available to avoid significantly impacting previously unidentified resources. Impacts for Phases 1 and 2 of the Proposed Project would remain significant and unavoidable (Class I).

4.5.5 Cumulative Impact Analysis

Geographic Extent Context

For the purposes of this cumulative impact analysis, Table 3-1 includes three projects within the County of San Luis Obispo that are located within an approximately 5-mile radius closest to the DCPP site where there is the potential for impacts related to archaeological resources (i.e., ground disturbance) to combine with those of the Proposed Project:

- Communications Facility (#2)
- Flying Flags Campground (#4)
- Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6)

The Orano System ISFSI Modifications (#1) is within the DCPP site; however, this project does not involve any ground disturbing activities.

This geographic scope of analysis is appropriate because the archaeological resources within this area are expected to be similar to those that occur on the Proposed Project site. Their proximity and similarity in environments would result in similar land-use, and thus, site types. Cumulative impacts could occur if other projects, in conjunction with the Proposed Project, would have impacts on cultural resources that, when considered together, would be significant.

The geographic scope for cumulative effects on built environment resources would include all the cumulative projects listed in Table 3-1 within the County of San Luis Obispo, County of Santa Barbara, and City of Pismo Beach, as follows:

Diablo Canyon Power Plant

- Orano System ISFISI Modifications (#1)
- Communications Facility (#2)
- Avila Beach Drive at Highway 101 Interchange (#3)
- Flying Flags Campground (#4)
- Bob Jones Trail Construction (#5)
- Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6)

Pismo Beach Railyard

- Signal at Bello and Price Canyon Road (#7)
- U.S. 101 Pismo Congestion Relief Project (#8)
- Public Safety Center (#9)
- Bello Road Paving (#10)
- Price Street Sidewalk Pavers (#11)
- Realign Frady Lane (#12)
- Storm Drain on Wadsworth from Bello to Judkins Middle School (#13)

SMVR-SB – Betteravia Industrial Park (County of Santa Barbara)

- Highway 101 – Betteravia Road Interchange (#17)

Cumulative Impact Analysis

Phase 1, Phase 2, and Post-Decommissioning Operations

Archaeology. Impacts to cultural resources tend to be site specific and are assessed on a site-by-site basis. The Proposed Project would require implementation of MMs CUL-1 through CUL-12, which would lessen the overall impact; however, impacts are considered significant and unavoidable (Class I). As identified in Table 3-1, cumulative projects that are within the geographic extent for cultural resources include a Communications Facility (#2), which is currently on hold; the Flying Flags Campground (#4), which is under construction and partially open for use; and the Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6) to construct hotel accommodations and related facilities, which is currently in the planning stages. These projects involve ground disturbing activity and therefore have the potential to impact cultural resources but may be completed prior to the Proposed Project's decommissioning activities.

Project-specific impacts would only contribute to a cumulative impact if the other cumulative projects impact significant cultural resources. Since the Proposed Project includes identified significant impacts related to cultural resources, it is anticipated that the cumulative effect in relation to cultural resources would remain significant and unavoidable. Because of the unknown nature of the cultural resources underlying the other cumulative projects and because of the nature of the Proposed Project's known impacts, it is expected that the cumulative impacts related to cultural resources will continue to be considered significant and unavoidable (Class I).

Built Environment. As no eligible historic resources are within the Project areas, the Proposed Project would not contribute any additional or cumulative impacts to eligible historic resources. The Proposed Project would not have cumulatively considerable impacts on historic built environment resources (No Impact).

4.5.6 Summary of Significance Findings

Table 4.5-3 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project.

Table 4.5-3. Summary of Impacts and Mitigation Measures – Cultural Resources Archaeology and Built Environment

	Impact Significance Class				
	Phase 1		Phase 2	Post-Decom	
Impact Statement	***DCPP***	***PBR/SB***	***DCPP***	***Ops/Marina***	**Mitigation Measures**
CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5	I	NI/NI	I	NI/II	**CUL-1:** Retain County-qualified Project Archaeologist **CUL-2:** Retain County-qualified Project Archaeological Monitors **CUL-3:** Retain Chumash Tribal Monitors **CUL-4:** Retain a Project Osteologist **CUL-5:** Develop a Cultural Resources Monitoring and Discovery Plan **CUL-6:** Cultural Resources Worker Environmental Awareness Program **CUL-7:** Archaeological and Tribal Monitoring **CUL-8:** Unanticipated Discoveries **CUL-9:** Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources **CUL-10:** Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities **CUL-11:** Restrict Access to Environmentally Sensitive Areas for Marina Operations
CUL-2: Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5	I	NI/NI	I	NI/II	**CUL-1** through **CUL-11** (see above)
CUL-3: Disturb any human remains, including those interred outside of formal cemeteries	I	NI/NI	I	NI/II	**CUL-1** through **CUL-11** (see above) **CUL-12:** Discovery of Human Remains
Cumulative Impact	Cumulatively considerable		Cumulatively considerable		**CUL-1** through **CUL-12** (see above)

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long-Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

4.6 Cultural Resources – Tribal Cultural Resources

This section provides information on tribal cultural resources (TCRs), which are a defined class of resources under Public Resources Code section 21074 (see Appendix C). TCRs include sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a California Native American Tribe. To qualify as a TCR, the resource must either: (1) be listed on, or be eligible for listing on, the California Register of Historical Resources (CRHR) or other local historic register as defined in Public Resources Code section 5020.1 subdivision (k); or (2) 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American Tribe.

Assembly Bill (AB) 52 (Gatto) requires that the California Environmental Quality Act (CEQA) Lead Agency send a formal notice and invitation to consult about a proposed project to all California Native American Tribes traditionally and culturally affiliated with the geographic area of the proposed project. The purpose of this consultation is to obtain tribal information and direction related to the potential significant effects on TCRs that may result from a project (PCR §21080.3.1(d)). Consultation must include discussion of specific topics or concerns identified by Tribes. This section describes the AB 52 consultation process, the results of that process, and potential impacts of the Proposed Project related to TCRs.

The following discussion is based on the confidential cultural resources technical reports prepared for PG&E for the Proposed Project, unless otherwise referenced, and include the *Diablo Canyon Decommissioning Cultural Resource Inventory and Study Plan* (PG&E, 2020) and *Cultural Resources Constraints Analysis for the Santa Maria Railyards, Santa Maria, Santa Barbara County, California* (PG&E, 2021), and the results of AB 52 consultation (San Luis Obispo, 2023).

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and considered in preparing this section:

- Ensure preservation of sites important to California Native American Tribes
- Address and acknowledge land ownership issues by local Tribes with the understanding that their intent is for conservation and managed use
- Consider consulting with Indigenous Groups as Responsible Agencies

4.6.1 Environmental Setting

4.6.1.1 Prehistoric Setting

The chronology of the California's Central Coast is generally broken up into six prehistoric periods: Paleo-Indian Period, Millingstone/Lower Archaic, Early Period, Middle Period, Middle-Late Transitional Period, and Late Period. This combines information from the Pecho Coast with the general patterns of prehistoric occupation throughout the Central Coast. Please refer to

Section 4.5, *Cultural Resources – Archaeology and Built Environment*, for a detailed description of the prehistory of the Proposed Project area.

4.6.1.2 Ethnographic Setting

The earliest residents to the Pecho Coast and DCPP area are the northern Chumash. The SMVR – Betteravia Industrial Park (SMVR-SB) area of the Proposed Project are located within lands traditionally occupied by the Santa Ynez Band of Chumash Indians.

The Chumash were among the most populous and socially complex groups in all of what is now California. During the Late Period (700-180 calibrated years before present), the Chumash were living in large villages along the Santa Barbara Channel coast, with less dense populations in the interior regions, on the Channel Islands, and in coastal areas north of Point Conception. Some villages may have had as many as 1,000 inhabitants, and population density was unusually high for a nonagricultural group. Occupational specialization went beyond craft activities such as bead production to include politics, religion, and technology. Complex social and religious systems tied many villages together and regulated regional trade, procurement and redistribution of food and other resources, conflict, and other aspects of society. Leadership was hereditary, and some chiefs had influence over several villages, indicating a simple chiefdom level of social organization.

The Chumash were a non-agrarian culture that relied on fishing, hunting, and gathering for their sustenance. Much of their subsistence was based on marine resources, and acorns were also a major food staple. The northern Chumash participated in long-range prehistoric trade networks. For example, they supplied the Yokuts with asphaltum and shells used in beadmaking, receiving in exchange pottery and possibly obsidian.

With the secularization of mission lands after 1834, traditional Chumash lands were distributed among grants to private owners. Near Mission Santa Barbara and Mission San Fernando Rey de España, several small ranchos were granted to recent converts of these missionaries, some of which provided a home and/or gardens for a few Chumash refugees. Some Chumash managed to maintain a presence in the area into the early twentieth century as cowboys, farm hands, and town laborers. The Catholic Church provided some land near Mission Santa Inés. This land eventually was deeded to the US government in 1901 as the 127-acre Santa Ynez Reservation. Since the 1970s, Chumash descendants living in the City of Santa Barbara and the rural areas of San Luis Obispo, Santa Barbara, and Ventura Counties have formed separate social and political organizations to aid in cultural revitalization, to protect sacred areas and archaeological sites, and to petition for federal recognition. Today, the Santa Ynez Band of Chumash Indians is the only federally recognized Chumash Tribe. There are several other Tribes that are recognized by the California Native American Heritage Commission, including the yak titᵛu titᵛu yak tiłhini, the Coastal Band of the Chumash Nation, and the Northern Chumash Tribal Council. Tribal members consider the Pecho Coast, including DCPP, to be of great cultural importance.

4.6.1.3 TCR Data Collection Methodology

Information presented in this section was gathered through formal AB 52 consultation between San Luis Obispo County (County) and California Native American Tribes that have traditional and

cultural affiliations with the Project area and that have requested to consult on the Proposed Project.

Project Notification

Government-to-government tribal consultation was conducted between the County and representatives of Native American Tribes based on formal requests from Tribes to be notified of projects in each group's Traditional Use Area and those Native American Tribes identified by the Native American Heritage Commission (NAHC). Letters including information about the Proposed Project, and an invitation to consult regarding the Proposed Project were mailed via USPS certified mail on July 12, 2021. Letters were sent to the following Tribes (presented in alphabetical order):

- Barbareño/Ventureño Band of Mission Indians
- Chumash Council of Bakersfield
- Coastal Band of the Chumash Nation
- Northern Chumash Tribal Council
- Salinan Tribe of Monterey, San Luis Obispo Counties
- San Luis Obispo County Chumash Council
- Santa Ynez Band of Chumash Indians
- Tule River Indian Tribe
- Xolon-Salinan Tribe
- yak titʸu titʸu yak tiłhini - Northern Chumash Tribe

Of these Tribes, the Northern Chumash Tribal Council, yak titʸu titʸu yak tiłhini - Northern Chumash Tribe, Coastal Band of the Chumash Nation, and the Santa Ynez Band of Chumash Indians requested to consult (presented in order of receipt of consultation request) with the County on the DCPP Decommissioning Project.

4.6.1.4 Summary of AB 52 Native American Tribal Consultation

The Northern Chumash Tribal Council requested formal consultation via email on July 15, 2021, yak titʸu titʸu yak tiłhini - Northern Chumash Tribe requested formal consultation via email on July 15, 2021, the Santa Ynez Band of Mission Indians requested formal consultation via email on August 19, 2021, and the Coastal Band of the Chumash Nation requested formal consultation via email on January 19, 2022. The discussion below provides a high-level summary of AB 52 consultations, as information exchanged during the consultation process is confidential.[15]

Northern Chumash Tribal Council

The County initiated consultation with the Northern Chumash Tribal Council (NCTC) on September 13, 2021. Fred Collins, representative of the NCTC, explained that the DCPP site is where his ancestral village is located, and site CA-SLO-2 in particular is of great interest and concern to the Tribe. Overall, the Tribe would like to see as little soil disturbance as possible.

[15] The order in which AB 52 consultations are discussed is based on the initial consultation date.

Follow-up meetings occurred February 22, 2022, and May 10, 2022, jointly with the Coastal Band of the Chumash Nation (CBCN). In addition, a site visit of the DCPP was attended by both Tribes on March 21, 2022. Both NCTC and CBCN want to see as minimal ground disturbance as possible in CA-SLO-2 and CA-SLO-61 (considered TCRs under CEQA) and emphasized the cultural sensitivity of the entire area.

Draft mitigation measures were written based on potential impacts and sent to NCTC and CBCN to review on May 9, 2022, and were discussed during a follow-up meeting on May 10, 2022. Further consultation occurred through meetings and email exchanges on June 1, 2022, July 25, 2022, August 8, 2022, August 15, 2022, August 24, 2022, August 31, 2022, September 29, 2022, October 6, 2022, and June 20, 2023. AB 52 consultation is ongoing.

yak titʸu titʸu yak tiłhini - Northern Chumash Tribe

Consultation was initiated with the yak titʸu titʸu yak tiłhini - Northern Chumash Tribe (ytt) on November 19, 2021. Follow up consultation meetings were held on December 14, 2021, and May 4, 2022. The tribal representatives emphasized they would like to see as little ground disturbance as possible and expressed their interest in preserving CA-SLO-2 and CA-SLO-61 as these known sites are of great concern to the Tribe and are considered TCRs under CEQA. Concerns were raised about the large amount of earthwork proposed for decommissioning and ytt emphasized the possibility of encountering cultural deposits in previously disturbed areas.

Draft mitigation measures were written based on potential impacts and sent to ytt to review on May 1, 2022 and were discussed during a follow-up meeting on May 4, 2022. Further consultation occurred through meetings and email exchanges on June 7, 2022, August 3, 2022, August 6, 2022, August 8, 2022, August 12, 2022, August 24, 2022, September 29, 2022, October 6, 2022, October 24, 2022, and June 26, 2023. AB 52 consultation is ongoing.

Coastal Band of the Chumash Nation

Consultation was initiated on February 22, 2022, as part of a joint meeting with NCTC and included a follow-up joint meeting on May 10, 2022. Please see the summary above under NCTC.

Santa Ynez Band of Chumash Indians

Consultation was initiated with the Santa Ynez Band of Chumash Indians (SYBCI) on June 3, 2022. No specific TCRs were identified during the consultation meeting. Draft mitigation measures were sent to SYBCI on July 25, 2022, for review and comment. The County received comments on the draft mitigation measures on August 16, 2022 and January 17, 2023. Another consultation meeting was held on June 22, 2023. The County provided SYBCI with revised draft mitigation measures on September 29, 2022 and June 23, 2023. AB 52 consultation is ongoing.

4.6.2 Regulatory Setting

Numerous laws and regulations require state and local agencies to consider the effects a project may have on TCRs. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship

among other involved agencies. The various federal and state laws, regulations, and policies are presented in Appendix C.

4.6.2.1 Local Laws, Regulations, and Policies

San Luis Obispo County General Plan. There is one element of the San Luis Obispo County General Plan that includes goals and policies regarding the management of Native American resources, the Conservation and Open Space Element (San Luis Obispo, 2010). The relevant goals and policies are described below.

San Luis Obispo County Land Use Element – Conservation and Open Space Element

Goals

- Goal CR 4. The County's known and potential Native American, archaeological, and paleontological resources will be preserved and protected.

Policies

- Policy CR 4.1 Non-development Activities. Discourage or avoid non-development activities that could damage or destroy Native American and archaeological sites, including off-road vehicle use on or adjacent to known sites. Prohibit unauthorized collection of artifacts.
- Policy CR 4.2 Protection of Native American Cultural Sites. Ensure protection of archaeological sites that are culturally significant to Native Americans, even if they have lost their scientific or archaeological integrity through previous disturbance. Protect sites that have religious or spiritual value, even if no artifacts are present. Protect sites that contain artifacts, which may have intrinsic value, even though their archaeological context has been disturbed.
- Policy CR 4.3 Cultural Resources and Open Space. The County supports the concept of cultural landscapes and the protection and preservation of archaeological or historical resources as open space or parkland on public or private lands.
- Policy CR 4.4 Development Activities and Archaeological Sites. Protect archaeological and culturally sensitive sites from the effects of development by avoiding disturbance where feasible. Avoid archaeological resources as the primary method of protection.
- Policy CR 4.6 Resources-Based Sensitivity. Protect archaeological resources near streams, springs and water sources, rock outcrops, and significant ridgetops, as these are often indicators of the presence of cultural resources.

San Luis Obispo County County Code. One title of the San Luis Obispo County General Ordinances include municipal codes regarding the management of archaeological resources and consultation with Native Americans: Title 23- Coastal Zone Land Use, which is described below (San Luis Obispo, 2014).

Title 23- Coastal Zone Land Use

23.07.104- Archaeologically Sensitive Areas.

To protect and preserve archaeological resources, the following procedures and requirements apply to development within areas of the coastal zone identified as archaeologically sensitive.

- Archaeologically sensitive areas. The following areas are defined as archaeologically sensitive:
  - Any parcel within a rural area which is identified on the rural parcel number list prepared by the California Archaeological Site Survey Office on file with the county Planning Department.
  - Any parcel within an urban or village area which is located within an archaeologically sensitive area as delineated by the official maps (Part III) of the Land Use Element.
  - Any other parcel containing a known archaeological site recorded by the California Archaeological Site Survey Office.
- Preliminary site survey required. Before issuance of a land use or construction permit for development within an archaeologically sensitive area, a preliminary site survey shall be required. The survey shall be conducted by a qualified archaeologist knowledgeable in local Native American culture and approved by the Environmental Coordinator. The County will provide pertinent project information to the Native American tribe(s).
- When a mitigation plan is required. If the preliminary site survey determines that proposed development may have significant effects on existing, known or suspected archaeological resources, a plan for mitigation shall be prepared by a qualified archaeologist. The County will provide pertinent project information to the Native American tribe(s) as appropriate. The purpose of the plan is to protect the resource. The plan may recommend the need for further study, subsurface testing, monitoring during construction activities, project redesign, or other actions to mitigate the impacts on the resource. Highest priority shall be given to avoiding disturbance of sensitive resources. Lower priority mitigation measures may include use of fill to cap the sensitive resources. As a last resort, the review authority may permit excavation and recovery of those resources. The mitigation plan shall be submitted to and approved by the Environmental Coordinator and considered in the evaluation of the development request by the Review Authority.
- Archaeological resources discovery. In the event archaeological resources are unearthed or discovered during any construction activities, the standards of Section 23.05.140 of this title shall apply. Construction activities shall not commence until a mitigation plan, prepared by a qualified professional archaeologist reviewed and approved by the Environmental Coordinator, is completed and implemented. The County will provide pertinent project information to the affected Native American tribe(s) and consider comments prior to approval of the mitigation plan. The mitigation plan shall include measures to avoid the resources to the maximum degree feasible and shall provide mitigation for unavoidable impacts. A report verifying that the approved mitigation plan has been completed shall be submitted to the Environmental Coordinator prior to occupancy or final inspection, whichever occurs first.

Santa Barbara County Comprehensive Plan, Land Use Element. The Land Use Element identifies policies to protect and avoid impacts associated with historical, archaeological, and other cultural sites. These policies outline measures that shall be taken to prevent impacts, including mitigation, when necessary, in accordance with the State Office of Historic Preservation and the State of California Native American Heritage Commission guidelines, and consultation with Native Americans when development that impacts significant cultural sites is proposed (Santa Barbara, 2016). As described in Section 1.3.3.2, *Surface Transportation Board*, railroads are under the

jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction over railyards (e.g., SMVR-SB).

City of Pismo Beach General Plan and Local Coastal Program. The City's General Plan identifies policies for the protection of archaeological, paleontological, and cultural resources, which includes standards for the investigation of known resources and when construction must be suspended. One applicable policy requires that for Chumash Cultural Resources Preservation, future development shall include CEQA compliance and consultation with local Chumash groups in accordance with the Native American Heritage Commission's "California Tribal Consultation List" (Pismo Beach, 2014).

4.6.3 Significance Criteria

The following significance criteria for TCRs are derived from Appendix G of the State CEQA Guidelines. Impacts to TCRs are considered significant if the Proposed Project would:

- Cause a substantial adverse change in the significance of a Tribal cultural resource, defined in Public Resources Code section 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:
  - Listed or eligible for listing in the California Register of Historical Resources (CRHR), or in a local register of historical resources as defined in Public Resources Code section 5020.1(k); or,
  - 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 Resources Code section 5024.1, the lead agency shall consider the significance to a California Native American Tribe.
    - In making a finding that a resource is a Tribal cultural resource, the County may consider, among other evidence, elder testimony, oral history, tribal archival information, testimony of an archaeologist or other expert certified by the Tribe, official declarations or resolutions adopted by the Tribe, formal statements by the Tribe's historic preservation officer, or other historical notes and anthropological records (State of California Governor's Office of Planning and Research [OPR], 2017).

      Adverse changes are considered, but not limited to, the following:

      — Physical, visual, or audible disturbances resulting from construction and development that would affect the integrity of a resource or the qualities that make it eligible for the CRHR;

      — Exposure of resources to vandalism or unauthorized collecting;

      — A substantial increase in the potential for erosion or other natural processes that could affect resources; or

      — Neglect of a resource that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious or cultural significance to a Native American Tribe.

4.6.4 Environmental Impact Analysis and Mitigation

Impact TCR-1: Cause a substantial adverse change in the significance of the Tribal Cultural Resource that is either listed or eligible for listing in the CRHR or in a local register of historical resources, or determined by the CEQA lead agency, in its discretion and supported by substantial evidence, to be significant (Class I: Significant and Unavoidable).

Phase 1

DCPP Project Site

As discussed in Section 4.5, *Cultural Resources*, two historical resources (CA-SLO-2 and CA-SLO-61) have been identified within the decommissioning area. Through AB 52 consultation, consulting Tribes have identified both CA-SLO-2 and CA-SLO-61 as TCRs.

CA-SLO-2. Phase 1 decommissioning activities within CA-SLO-2 include removal of an existing 230 kV tubular steel pole (TSP) and the removal of two guy wire anchors directly adjacent to that pole. CA-SLO-2 was subjected to immense disturbance in certain areas during construction of the power plant. These disturbances included, but are not limited to, the constructions of access roads throughout CA-SLO-2, construction of a substation, grading of a laydown area, and the deposit of sand blast grit from power plant construction. The existing 230 kV TSP and guy wire anchors are located within the boundary of the former substation and the sand blast grit is located within the boundary of the former laydown area.

Under the Proposed Project, both the existing TSP and guy wire anchors would be removed to grade, and all subsurface footings would be abandoned in place. No excavations would occur to remove the TSP or guy wires. Therefore, Phase 1 decommissioning activities would not directly or indirectly impact CA-SLO-2.

CA-SLO-61. Phase 1 decommissioning activity within CA-SLO-61 includes removal of the existing security fence, which surrounds the Turbine Building and Unit 1 and 2 reactors. A portion of this fence is within the boundary of CA-SLO-61. The security fence would be removed to grade, and the existing fence post footings would be pulled directly out of the ground without excavating around them, then backfilled with clean fill.

Alternatively, the fence footings within the CA-SLO-61 site boundaries could be abandoned in place. This alternative would require fence footings known to be within the site boundaries be abandoned in place with only the top 3 to 6 inches of the footing removed to allow for a consistent grade and eventual paving. Removal of the access road would be limited to removing only the asphaltic concrete (surface) course or layer and any asphalt or cement concrete curbs. The aggregate subbase and base course would be left in place for incorporation into the grading work. The guard rail footings are proposed to be removed in the same manner as the security fence footings, by either being pulled directly out of the ground without excavating around them then backfilled with clean fill or abandoned in place.

Since removal of the security fence, fence footings, existing access road, guard rails, and guard rail footings would only take place superficially in previously disturbed soils and would not

require any new ground disturbance in intact native soil, the proposed Phase 1 decommissioning activities would not directly or indirectly impact CA-SLO-61.

Railyards

Pismo Beach Railyard. The activities proposed at the PBR site include refurbishment of 1,100 feet of existing spur rail, as well as replacing railroad ties and some gravel to the northeast section of rail line. Refurbishing the rail line is limited to the existing footprint and would not encroach on any intact native soils. Additionally, no TCRs have been identified within the PBR site; therefore, none would be impacted.

SMVR-SB. Activities proposed for SMVR-SB railyard include refurbishment of existing rail spurs, use of steel road plates or installation of engineered fill, and installation of perimeter fencing. No subsurface excavations are proposed. Additionally, no TCRs have been identified within SMVR-SB; therefore, none would be impacted**.**

Unanticipated Buried Resources

As with any project that involves ground disturbing activity, there is the potential for unknown buried resources to be encountered within the DCPP site. Inadvertent disturbance or destruction of an unidentified cultural resource, that could be considered a TCR, could damage or destroy the resource or change its context. Due to the sensitive nature of the DCPP site, the potential for encountering unanticipated buried resources is highly probable even in previously disturbed areas. If an unanticipated buried resource is encountered, and if the currently unidentified resource were determined to be eligible for listing in the CRHR, the Proposed Project activities could result in a significant impact to the resource. PG&E has proposed awareness training as part of the Proposed Project (AC CR-2, *Worker's Environmental Awareness Training – Cultural and Paleontological Resources*); however, this AC focuses more on paleontology. Therefore, implementation of MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*) MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), and MM CUL-12 (*Discovery of Human Remains*) would lessen the overall impact; however, not to a less than significant level. Therefore, impacts to TCRs during Phase 1 are considered significant and unavoidable (Class I).

Phase 2

Activities in Phase 2 include contaminant remediation, demolition of remaining utilities and structures, soil grading and landscaping, long-term stormwater management, closure of the Intake Structure, and continuation of Discharge Structure removal and restoration activities. Phase 2 also proposes to establish a blufftop road at the end of DCPP decommissioning to connect Shore Cliff Road with North Ranch Road/Pecho Valley Road.

DCPP Project Site

As described above, two TCRs (CA-SLO-2 and CA-SLO-61) are located within the area of proposed Phase 2 activities. Soil remediation of an approximately 2,060 square foot former sand blast area may occur within the boundaries of CA-SLO-2, which could significantly impact the site. PG&E will not know if this area needs to be remediated until after the plant ceases operating, when they complete a site characterization study. For the site characterization chemical samples, three shallow samples (0-1 foot below ground surface) will be taken where the sandblasting material is located. Further testing could be required depending on the result. For the Final Status Surveys, 15 to 20 samples likely would be collected. Each sample would be six inches deep. A gardening shovel would be primarily used, although if there are hard clay soils, a pick-axe may be required. In addition, approximately 10 percent of the area would be "walked over" with a sodium iodine detector to assess gamma signatures from DCPP-derived radionuclides. Due to immense grading and use of CA-SLO-2 as a laydown area for the prior construction of DCPP, the site is heavily disturbed.

Superficial soil characterization excavations and soil remediation of a heavily disturbed portion of the site would not significantly impact the site's integrity. However, given the sensitivity of this site, if soil remediation extends into native soils under the former sand blast area, which potentially could have intact deposits, these deposits could be damaged or destroyed resulting in a potentially significant impact to the sites integrity. PG&E has proposed awareness training as part of the Proposed Project (AC CR-2, *Worker's Environmental Awareness Training – Cultural and Paleontological Resources*); however, this AC focuses more on paleontology. Therefore, implementation of MM CUL-1 (*Retain a County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas for Marina Operations*), and MM CUL-12 (*Discovery of Human Remains*), would lessen the overall impact, however, not to a less than significant level. Therefore, impacts to unanticipated buried TCRs during Phase 2 are considered significant and unavoidable (Class I).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Project operations do not have the potential to directly impact known TCRs as there is little to no ground disturbance associated with continued operations.

Future Actions. The use of the Marina by a third party could cause indirect impacts to known TCRs, since members of the public would be allowed to explore the area and could stumble upon a known significant resource, increasing the risk of looting. The long-term effects of looting could significantly impact known TCRs. Establishing Environmentally Sensitive Areas (ESAs) and

restricting public access through physical barriers and signage would limit the potential for the public to identify TCRs. Therefore, implementation of MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas for Marina Operations*) would reduce the indirect impact to a less than significant level (Class II).

Mitigation Measures for Impact TCR-1.

All the mitigation measures applicable to Cultural Resources – Archaeology and Built Environment, as detailed in Section 4.5, apply to reduce impacts to TCRs.

CUL-1 Retain County-qualified Project Archaeologist

CUL-2 Retain County-qualified Project Archaeological Monitors

CUL-3 Retain Chumash Tribal Monitors

CUL-4 Retain a Project Osteologist

CUL-5 Develop a Cultural Resources Monitoring and Discovery Plan

CUL-6 Cultural Resources Worker Environmental Awareness Program

CUL-7 Archaeological and Tribal Monitoring

CUL-8 Unanticipated Discoveries

CUL-9 Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources

CUL-10 Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities

CUL-11 Restrict Access to Environmentally Sensitive Areas for Marina Operations

CUL-12 Discovery of Human Remains

Residual Impacts. Given the tribal and archaeological sensitivity of the DCPP site, although impacts would be reduced through the above mitigation measures, no mitigation is available to avoid significantly impacting previously unidentified TCRs at the DCPP site. Impacts during both Phase 1 and Phase 2 would remain significant and unavoidable (Class I).

4.6.5 Cumulative Impact Analysis

Geographic Extent Context

For the purposes of the cumulative impact analysis for Tribal Cultural Resources, Table 3-1 includes three projects within the County of San Luis Obispo that are located within an approximately 5-mile radius of the DCPP site where there is the potential for similar TCR impacts that could combine with those of the Proposed Project, as follows:

- Communications Facility (#2)
- Flying Flags Campground (#4)
- Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6)

Their proximity and similarity in environments would result in similar land-use, and thus, site types. Cumulative impacts on TCRs could occur if other projects, in conjunction with the Proposed Project, have or would have impacts on TCRs that, when considered together, would be significant.

The Orano System ISFSI Modifications (#1) is within the DCPP site; however, this project does not involve any ground disturbing activities.

Cumulative Impact Analysis

Impacts to TCRs tend to be site specific and are assessed on a site-by-site basis. The Proposed Project would require implementation of MMs CUL-1 through CUL-12, which would lessen the overall impact; however, impacts are considered significant and unavoidable. As identified in Table 3-1, cumulative projects that are within the geographic extent for TCRs and involve ground disturbing activities include a Communications Facility (#2), which is currently on hold; the Flying Flags Campground (#4), which is under construction and partially open for use; and the Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6) to construct hotel accommodations and related facilities, which is currently in the planning stages. These projects have the potential to impact TCRs but may be completed prior to the Proposed Project's decommissioning activities.

Because the Proposed Project would have significant impacts to TCRs, the cumulative effect on TCRs would remain significant and unavoidable. In addition, the unknown nature of TCRs associated with the cumulative projects and the Proposed Project's known impacts, it is expected that the cumulative impacts related to TCRs would be cumulatively considerable.

4.6.6 Summary of Significance Findings

Table 4.6-1 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project.

Table 4.6-1. Summary of Impacts and Mitigation Measures – Cultural Resources – Tribal Cultural Resources

	Impact Significance Class				
	Phase 1		Phase 2	Post-Decom	
Impact Statement	***DCPP***	***PBR/SB***	***DCPP***	***Ops/Marina***	**Mitigation Measures**
TCR-1: Cause a substantial adverse change in the significance of the Tribal Cultural Resource that is either listed or eligible for the listing in the CRHR or in a local register of historical resources, or determined by the CEQA lead agency, in its discretion and supported by substantial evidence, to be significant	I	NI/NI	I	NI/II	**CUL-1:** Retain Cultural Resources Specialist **CUL-2:** Retain County-qualified Project Archaeological Monitors **CUL-3:** Retain Chumash Tribal Monitors **CUL-4:** Retain a Project Osteologist **CUL-5:** Develop a Cultural Resources Monitoring and Discovery Plan **CUL-6:** Cultural Resources Worker Environmental Awareness Program **CUL-7:** Archaeological and Tribal Monitoring **CUL-8:** Unanticipated Discoveries

Table 4.6-1. Summary of Impacts and Mitigation Measures – Cultural Resources – Tribal Cultural Resources

	Impact Significance Class				
	Phase 1		Phase 2	Post-Decom	
Impact Statement	***DCPP***	***PBR/SB***	***DCPP***	***Ops/Marina***	**Mitigation Measures**
					CUL-9: Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources **CUL-10:** Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities **CUL-11:** Restrict Access to Environmentally Sensitive Areas for Marina Operations **CUL-12:** Discovery of Human Remains
Cumulative Impact	Cumulatively considerable		Cumulatively considerable		No feasible additional measures

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long-Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

4.7 Energy

This section describes existing environmental conditions and anticipated energy resources impacts to the environment associated with the Proposed Project. This section describes the consumption of energy resources by the Proposed Project (e.g., from Proposed Project decommissioning activities, equipment use, and scheduling of activities) and whether the Proposed Project would conflict with adopted plans for renewable energy or energy efficiency.

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and considered in preparing this section:

- Address the loss of electric power supply brought about by the retirement and decommissioning the Diablo Canyon Power Plant.
- Consider the impacts of electrical power import needs created by decommissioning the Diablo Canyon Power Plant including from Wyoming coal-fired generation.
- Consider geothermal energy production as a replacement for the Diablo Canyon Power Plant.
- Consider what alternative energy system will be needed to generate power for customers that currently rely on Diablo Canyon Power Plant.

4.7.1 Environmental Setting

The DCPP Project Site is in an "operating" status. The basis for this EIR is that PG&E will retire DCPP and transition DCPP into a "decommissioning" status. The No Project Alternative for the DCPP site is discussed in Section 5.4.1, *Alternative 1: SAFSTOR Alternative*, and in this alternative, DCPP would be put in a safe, stable storage condition, and decommissioning would need to be completed within 60 years as required by NRC regulations. The Proposed Project involves the decommissioning (withdraw from service and make inoperative) and dismantlement (demolition, decontamination, and removal) of the existing plant.

Under existing conditions, the DCPP generates power for California's end users of electricity. PG&E delivers energy to nearly 16 million people throughout a 70,000-square-mile service area in Northern and Central California. PG&E's service area stretches from Eureka in the north to Bakersfield in the south, and from the Pacific Ocean in the west to the Sierra Nevada in the east. PG&E provides electric service to more than 5 million electric customer accounts (PG&E, 2020).

Nuclear power is a substantial portion of the energy provided to PG&E's customer base. The energy sources that make up the mix of power supplied to PG&E customers, relative to the 2020 California power mix, are summarized in Table 4.7-1.

Table 4.7-1. 2020 Energy Sources of Electricity Supplied to PG&E Customers (Power Content)

Energy Resources	2020 Power Content Label for PG&E's Base Plan	2020 California-wide Power Mix
Eligible Renewable	30.6%	33.1%
Biomass & biowaste	2.6%	2.5%
Geothermal	2.6%	4.9%
Eligible hydroelectric	1.2%	1.4%
Solar	15.9%	13.2%
Wind	8.3%	11.1%
Coal	0.0%	2.7%
Large Hydroelectric	10.1%	12.2%
Natural Gas	16.4%	37.1%
Nuclear	42.8%	9.3%
Other	0.0%	0.2%
Unspecified sources of power [1]	0.0%	5.4%
Total	**100%**	**100%**

Source: California Energy Commission (CEC), 2021a.
[1] "Unspecified sources of power" means electricity from transactions not traceable to specific generation sources.

In recent years, the annual electricity consumption procured or generated by PG&E to serve its customers has generally declined and in 2020 was down to a level of 78,519 gigawatt-hours (GWh) (CEC, 2021b). This trend is driven by growth in customer-installed distributed generation and the expansion of Community Choice Aggregators procuring energy for enrolled customers (PG&E, 2020). Table 4.7-2 shows the baseline electricity consumption by PG&E's customers over the prior five years, separated by customer classes.

Table 4.7-2. Electricity Consumption for Load Served by PG&E (GWh per year)

Customer Sector	2016	2017	2018	2019	2020
Ag & Water Pump	6,692	5,100	5,832	4,567	6,638
Commercial Building	30,661	30,753	30,148	30,069	26,247
Commercial Other	4,546	4,353	4,266	4,424	3,949
Industry	10,619	10,515	10,519	9,877	9,814
Mining & Construction	1,909	1,765	1,594	1,670	1,748
Residential	28,625	29,138	27,700	27,485	29,834
Streetlight	355	321	311	298	290
PG&E Total Usage	**83,408**	**81,945**	**80,369**	**78,390**	**78,519**

Source: CEC, 2021b.
[1] Usage expressed in gigawatt-hours (GWh); one GWh equals one million kilowatt-hours.

4.7.2 Regulatory Setting

Retirement of Diablo Canyon Nuclear Power Plant

The Diablo Canyon Power Plant Decommissioning Project would be a consequence of PG&E's decision to not pursue renewal of the existing licenses to operate the DCPP reactors (see Section 1.2.1, *DCPP License Expiration and Retirement*). In 2016, PG&E decided to forego license renewal efforts and announced plans to close DCPP. This decision was confirmed by the California Public Utilities Commission (CPUC) in 2018. The CPUC's order indicated that replacement procurement of energy resources and efforts to avoid an increase in GHG emissions relating to the retirement would need to be addressed in the CPUC's Integrated Resource Planning proceedings or an equivalent proceeding.

Energy Action Plan and Loading Order

California has mandated and implemented aggressive energy-use reduction programs for electricity and other resources. In 2003, California's first Energy Action Plan (EAP) established a high-level, coherent approach to meeting California's electricity and natural gas needs and set forth the "loading order" to address California's future energy needs. The "loading order" established that the State, in meeting its energy needs, would invest first in energy efficiency and demand-side resources, followed by renewable resources, and only then in clean conventional electricity supply (CPUC, 2008). Since that time, the CPUC and California Energy Commission (CEC) have overseen the plans, policies, and programs for prioritizing the preferred resources, including energy efficiency and renewable energy.

California's Renewables Portfolio Standard

Electric utilities in California must procure a minimum quantity of the electricity sales from eligible renewable energy resources as specified by Renewables Portfolio Standard (RPS) requirements. The most-recent update to the RPS targets was set forth in 2018 with the "100 Percent Clean Energy Act of 2018" (Senate Bill 100 [SB 100]), which establishes the policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers by December 31, 2045. SB 100 requires the CPUC and CEC to ensure that implementation of this policy does not cause or contribute to GHG emissions increases elsewhere in the western grid.

Integrated Resource Planning

An Integrated Resource Plan (IRP) is an electricity system planning document that lays out the energy resource needs, policy goals, physical and operational constraints, and the general priorities or proposed resource choices of an electric utility, including customer-side preferred resources. Through Senate Bill 350 (De León, Chapter 547, Statutes of 2015) (SB 350), California's investor-owned utilities such as PG&E must file with the CPUC an IRP that is subject to a review for consistency with statewide targets for energy efficiency, renewable resources, and GHG emissions reductions.

PG&E filed its 2020 IRP to the CPUC in September 2020 in the proceeding for the 2020 IRP cycle (CPUC Rulemaking (R.) 16-02-007). Each IRP for any of the load-serving entities that filed to the

CPUC in the 2020 cycle was required to "[p]rovide narrative description explaining which specific resources are planned to be procured to serve their load in the absence of DCPP" and that "new resources are suitable substitutes and are able to maintain system reliability without increasing GHG emissions" (PG&E, 2020). All load-serving entities (i.e., a company or utility that supplies electricity to a customer) under the CPUC's jurisdiction must submit an updated IRP for the 2022 cycle by November 1, 2022 (CPUC, 2022).

During 2020 and 2021, the CPUC clarified and expedited the procurement requirements to address mid-term (2023-2026) reliability needs, including the replacement of capacity from DCPP and several other thermal power plants anticipated to retire as a result of once-through-cooling regulations (in Decision (D.) 21-06-035, June 24, 2021, in CPUC R. 20-05-003).[16] The order for mid-term reliability specifically establishes the emissions profile for the replacement capacity for DCPP's retirement to require procurement of 2,500 megawatts (MW), including 1,000 MW of long-duration storage and 1,000 MW from firm, zero-emitting resources by 2024. The order assigned the procurement responsibility to all load-serving entities based on their share of peak demand (CPUC, 2021).[17]

County of San Luis Obispo EnergyWise Plan

The Board of Supervisors adopted the EnergyWise Plan in 2011 (San Luis Obispo, 2011), updated in 2016 (San Luis Obispo, 2016), with one overarching goal, to reduce GHG emissions from community-wide and County operations sources by a minimum of 15 percent from 2006 baseline emissions by 2020. The 2016 update summarized progress towards implementing measures, and overall emissions trends since the baseline inventory in 2006. The 2016 update reviews the implementation of 12 specific reduction goals, six for government operations and six for community-wide activity. The EnergyWise Plan goals revolve around reducing energy use, reducing water use, promoting renewable energy use, and improving energy efficiency.

4.7.3 Significance Criteria

The Proposed Project would be found to cause a significant environmental impact if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during decommissioning.
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

For the analysis of decommissioning activities that would involve use of energy-consuming equipment and processes, this analysis presents a qualitative discussion of energy use necessary

[16] CPUC D. 21-06-035, June 24, 2021 (p.44): "*Nonetheless, to ensure no ambiguity, we will require that at least 2,500 MW of the resources procured by the LSEs [load-serving entities] collectively, between 2023 and 2025, be from zero-emission resources that generate electricity, or generation resources paired with storage, to replace Diablo Canyon*."

[17] The CPUC defined "firm" resources as "*resources must be able to deliver firm power (with a capacity factor of at least 80 percent). This means that the resource must not be subject to use limitations or be weather dependent. The resource must be a generating resource, not storage, able to generate when needed, for as long as needed. In addition, the resource may not have any on-site emissions, except if the resource otherwise qualifies under the RPS program eligibility requirements*." D.21-06-035 at p. 36.

to undertake the different phases and components of the Proposed Project. Consistent with the State CEQA Guidelines, Appendix F: Energy Conservation, the goal of conserving energy implies the wise and efficient use of energy including:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas, and oil; and
- Increasing reliance on renewable energy sources.

Lead agency actions that are consistent with these goals would not likely cause an energy-related impact. The energy impact analysis emphasizes avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy resources, and evaluates whether a potentially significant environmental impact would occur due to inefficient, wasteful, and unnecessary consumption of energy.

4.7.4 Environmental Impact Analysis and Mitigation

Impact EN-1: Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources (Class III: Less than Significant).

Phase 1

DCPP Project Site

The baseline and environmental setting include the DCPP Project Site in an "operating" status. Upon expiration of the Unit 1 and Unit NRC licenses, PG&E would retire DCPP and transition DCPP into a "decommissioning" status (see Section 1.1.1, *DCPP License Expiration and Retirement*).

Currently, DCPP provides 2,240 MW of generating capacity to California's electric transmission system. With or without the Proposed Project, the baseline production of electricity would cease when operations cease. PG&E would no longer need to procure or receive nuclear fuel for power production.

Because the decommissioning of DCPP would be a consequence of PG&E's prior decision to not pursue renewal of the existing licenses to operate the DCPP reactors, this analysis focuses on the energy use that could occur during decommissioning activities themselves. See Impact EN-2 for a discussion of the effects of procuring replacement power.

Phase 1 activities for the Proposed Project would commence after DCPP Unit 1 shuts down in November 2024 and continue over approximately eight years until most above-grade structures and some below-grade structures are removed from the site. Electricity used during decommissioning would be approximately 10 to 15 MW more than current needs at the DCPP site, which would be obtained through PG&E's regional power grid (PG&E, 2021). This increase in electricity usage represents a small change (about 0.03%) in the context of California's historic peak day loads of 47,121 MW to 52,061 MW, in 2020 or 2022, respectively (CAISO, 2023).

During the transition into decommissioning, the planned closure would bring about an overall reduction in activity at the site. Water demand for the Proposed Project would be much lower than the typical annual freshwater used for power production and domestic water use at the site.

Compared with current DCPP operations, decommissioning staffing is expected to be less than current staffing levels. Presently, DCPP employs approximately 1,157 but generally up to approximately 1,400 workers (see Section 2.2.3.1), and during decommissioning there would be around 870 workers daily in Phase 1, and around 160 workers daily in Phase 2. Because lower numbers of staff would travel to and from the site as compared to current DCPP operations, energy used by DCPP site staff for commuting would be less than current levels.

During decommissioning, motorized equipment and vehicles would consume energy resources in the form of fossil fuels (i.e., diesel fuel and gasoline). Additionally, Phase 1 activities would involve long-distance truck travel, tugboat and barge operations, and rail transport by locomotives. The delivery and export of materials and equipment to the site, provision of water supplies, and use of electric grid power would also require energy consumption of various forms of energy.

Phase 1 activities would consume primarily diesel fuel with comparably negligible consumption of gasoline, natural gas, or electricity. Diesel fuel would be consumed by trucks, locomotives, and marine vessels transporting decommissioned debris; and off-road and marine equipment used in the onshore and offshore demolition activities. As shown in Table 4.9-2 (see Section 4.9, *Greenhouse Gas Emissions*), Phase 1 of the Proposed Project would emit approximately 91,744 metric tons of carbon dioxide equivalent (CO_2e) over the 8 years of Phase 1 activity. The volume of diesel consumed during Phase 1 of decommissioning can be estimated by using a general emission factor for diesel of 10.2 kilograms of CO_2 per gallon.[18] Based on the mass of CO_2e emissions, approximately 9.0 million gallons overall or 26,769 barrels per year of diesel fuel would need to be used over the 8-year duration of Phase 1.

California's refineries produce approximately 1 million to 1.4 million barrels of diesel fuel each week (CEC, 2022) or roughly 50 to 70 million barrels per year. The equivalent annual-average diesel fuel use during Phase 1 of 26,769 barrels per year would equate to approximately 0.05 percent of the diesel volume produced by California's refineries in one year. Therefore, the impact of energy use during Phase 1 would be less than significant (Class III). Additionally, energy used during decommissioning activities would be reduced incidentally by minimizing unnecessary use of construction equipment and vehicles (e.g., by limiting idling, committing construction equipment to be properly maintained, and using electric equipment where feasible) so that activity levels are not wasteful (see Table 2-12). Air quality mitigation (MM AQ-1, *Implement a Decommissioning Activity Management Plan [DAMP]*) to manage decommissioning activities could also result in expanded carpooling or other transportation management efficiencies, which would reduce vehicle trips and the energy used during worker travel, thus further reducing Phase 1 energy impacts.

Railyards

Energy consumption by Phase 1 activities at the railyards is included in the overall estimate for Phase 1, described above. The impact of wasteful energy consumption would be less than significant (Class III).

[18] The volume of diesel fuel used can be approximated from 10.2 kg CO_2 per gallon, based on the fuel heating value (0.138 million British thermal units per gallon) multiplied by the default CO_2 emission factor (73.96 kg CO_2 per million British thermal unit), in Table 2-3 of Title 17, California Code of Regulations, Section 95115.

Phase 2

Activities in Phase 2 include contaminant remediation, demolition of remaining utilities and structures, soil grading and landscaping, long-term stormwater management, closure of the Intake Structure, and continuation of Discharge Structure removal and restoration activities. Similar to Phase 1 activities, Phase 2 would consume primarily diesel fuel through the use of trucks and other equipment but at a much smaller scale compared to Phase 1.

As shown in Table 4.9-3 (see Section 4.9, *Greenhouse Gas Emissions*), Phase 2 of the Proposed Project would emit approximately 7,698 metric tons of CO_2e. As noted above, the volume of diesel consumed during Phase 2 of decommissioning can be estimated by using a general emission factor for diesel of 10.2 kilograms of CO_2 per gallon. Based on the mass of CO_2e emissions, approximately 0.75 million gallons overall or 2,245 barrels per year of diesel fuel would need to be used over the entire 8-year duration of Phase 2. This would equate to approximately 0.004 percent of the diesel volume produced by California's refineries in one year. Therefore, the impact of energy use during Phase 2 would be less than significant (Class III).

Based on the State CEQA Guidelines, Appendix F, evaluating a project for significant impacts with regard to energy conservation should consider whether the project would use large amounts of fuel or energy in an unnecessary, wasteful, or inefficient manner. Taken together, Phase 1 and Phase 2 of the Proposed Project would not involve inefficient or wasteful use of energy. Unnecessary, wasteful, or inefficient fuel use would be avoided through Applicant Commitments (ACs) (see Table 2-12) designed to avoid unnecessary air quality and greenhouse gas emissions.

Although the Proposed Project would require the use of energy resources throughout decommissioning, the activities would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources. Impacts of the Proposed Project decommissioning activities would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, operational activities at the DCPP site would include long-term management of the GTCC Waste Storage facility and operation of the Security Building, indoor Firing Range, and Storage Buildings. These operations would be expected to use less energy than current operations and would consist of less than 50 peak staff employees. These activities would not involve inefficient or wasteful use of energy. This impact would be less than significant (Class III).

Future Actions. Marina improvement and operations would be completed by a third party who would be required to obtain necessary land use and building permits as we as a new or amended lease from CSLC. The Breakwaters would remain in place and the Marina would be used for small vessels to be launched into the Intake Cove. These improvements may include parking lots, bathrooms, and a boat hoist, and would not contribute to inefficient or wasteful energy use, so this impact would be less than significant (Class III).

Mitigation Measures for Impact EN-1. No mitigation measures are required.

Impact EN-2: Conflict with state or local plan for renewable energy or energy efficiency (Class III: Less than Significant Impact).

Phase 1

DCPP Project Site

The retirement plans for DCPP that were approved by the CPUC in January 2018 include procuring replacement power supplies from cost-effective, GHG-free portfolio of energy efficient renewables and energy storage projects, as described in EIR Section 1.2.1, *DCPP License Expiration and Retirement*. The CPUC decision in 2018 directed all CPUC-jurisdictional load serving entities to plan for the procurement of their share of replacement power for the retirement of the DCPP. The planning efforts that are consistent with CPUC direction for procurement of replacement power by load-serving entities, therefore reflect retirement of DCPP and would continue unchanged by the Proposed Project.

California's policies establish the goal of eligible renewable energy resources and zero-carbon resources to supply 100 percent of retail sales of electricity to California end-use customers by December 31, 2045, as established by SB 100. In the provisions of SB 100, the CPUC and CEC must ensure that implementation of this policy does not cause or contribute to GHG emissions increases elsewhere in the western grid.

CPUC's 2021 order for statewide electric system reliability specifically establishes the emissions profile for the replacement capacity for DCPP's retirement to require procurement of 2,500 MW from firm, zero-emitting resources by 2024. The order assigned the procurement responsibility to all load-serving entities based on their share of peak demand (CPUC, 2021). These requirements ensure that the replacement power for DCPP retirement would be procured in a manner that is consistent with statewide plans for promoting renewable energy. Additionally, as mentioned in Section 2.3.13, *Removal of 230 kV Lines and Poles and 500 kV Lines and Towers from Switchyards to Diablo Canyon Power Plant*, the DCPP 230 and 500 kV switchyards would be retained, as well as the existing transmission lines that connect to these switchyards (to support the transmission grid), with the exception of those identified in Figure 2-18.

There are no plans or policies that relate specifically to use of renewable energy or energy efficiency during decommissioning activities. The Phase 1 activities would have no potential to conflict with federal, state, and local plans for renewable energy development or energy efficiency. Therefore, the impact would be less than significant (Class III).

Railyards

No specific renewable energy or energy efficiency plans would relate to Phase 1 activities at the railyards.

Phase 2

Before Phase 2, Units 1 and 2 would be decommissioned, and Phase 2 activities would include contaminant remediation, demolition of remaining utilities and structures, soil grading and landscaping, long-term stormwater management, closure of the Intake Structure, and continuation

of Discharge Structure removal and restoration activities. Similar to Phase 1 activities, Phase 2 would consume primarily diesel fuel through the use of trucks and other equipment but at a much smaller scale compared to Phase 1.

There are no plans or policies that relate specifically to use of energy during decommissioning activities. Phase 2 activities would have no potential to conflict with federal, state, and local plans for renewable energy development or energy efficiency. Therefore, the impact would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, operational activities at the DCPP site would include long-term management of the GTCC Waste Storage facility and operation of the Security Building, indoor Firing Range, and Storage Buildings. No specific energy efficiency or renewable energy plans would relate to new facility operations. This impact would be less than significant (Class III).

Future Actions. Marina improvement and operations would be completed by a third party who would be required to obtain necessary land use and building permits as well as a new or amended lease from CSLC. The Breakwaters would remain in place and the Marina would be used for small vessels to be launched into the DCPP Intake Cove. No specific energy efficiency or renewable energy plans would relate to new facility operations. This impact would be less than significant (Class III).

Mitigation Measures for Impact EN-2. No mitigation measures are required.

4.7.5 Cumulative Impact Analysis

Geographic Extent Context

The geographic scope of the cumulative analysis for energy consumption would span the State of California including all the cumulative projects listed in EIR Section 3.3.2, *Relevant Cumulative Projects*. This geographic area is selected because decommissioning activities and all other cumulative projects have the potential to utilize energy resources temporarily or permanently, and by using fossil-fueled resources, cumulative projects could have the potential to conflict with plans and policies related to increasing renewable energy and energy efficiency.

Cumulative projects that are considered for potential cumulative impacts related to energy include:

Diablo Canyon Power Plant

- Orano System ISFISI Modifications (#1)
- Communications Facility (#2)
- Avila Beach Drive at Highway 101 Interchange (#3)
- Flying Flags Campground (#4)
- Bob Jones Trail Construction (#5)
- Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6)

Pismo Beach Railyard

- Signal at Bello and Price Canyon Road (#7)
- U.S. 101 Pismo Congestion Relief Project (#8)
- Public Safety Center (#9)
- Bello Road Paving (#10)
- Price Street Sidewalk Pavers (#11)
- Realign Frady Lane (#12)
- Storm Drain on Wadsworth from Bello to Judkins Middle School (#13)

In Vicinity of Truck Route (City of Santa Maria)

- Westgate Marketplace (#14)
- SerraMonte Townhomes (#15)
- Workforce Dormitories (#16)

SMVR-SB – Betteravia Industrial Park (County of Santa Barbara)

- Highway 101 – Betteravia Road Interchange (#17)

Offshore/Energy Projects

- Vandenberg Offshore Wind Energy Projects (#18)
- South Ellwood Project (#19)
- Rincon Onshore and Offshore Facilities (#20)
- Chumash Heritage Marine Sanctuary Project (#21)
- Morro Bay Wind Energy Area (#22)
- Humboldt Wind Energy Area (#23)
- PacWave South Project (#24)
- Port San Luis Breakwater Repair (#25)

Cumulative Impact Analysis

The analysis above shows that the incremental effect of the Proposed Project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources (Impact EN-1) and would not conflict with any plans for renewable energy or energy efficiency (Impact EN-2). Energy use would be reduced by minimizing unnecessary use of equipment and vehicles and limiting the idling of equipment (see Table 2-12).

The range of cumulative projects identified in Section 3.3.2, *Relevant Cumulative Projects*, includes transportation, commercial, and residential developments, and energy infrastructure including offshore wind projects. Although development activities associated with cumulative projects would require the use of fossil fuels, similar to fossil fuel demands of the decommissioning activities of the Proposed Project, each project could be expected to initiate feasible energy-saving efficiencies and to comply with applicable building standards, energy policies and regulations as part of project approval to reduce wasteful, inefficient, or unnecessary use of energy resources.

Furthermore, many of the cumulative projects would also contribute additional renewable energy supplies to California, facilitating the State's transition away from reliance on fossil fuels. Many of the listed cumulative projects would provide a beneficial cumulative contribution related to directly supporting federal, state, and local plans for renewable energy development, and the incremental effect of the Proposed Project would not be cumulatively considerable.

4.7.6 Summary of Significance Findings

Table 4.7-3 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project.

Table 4.7-3. Summary of Impacts and Mitigation Measures – Energy

Impact Statement	Impact Significance Class				Mitigation Measures
	Phase 1		Phase 2	Post-Decom	
	DCPP	*PBR/ SB*	*DCPP*	*Ops/ Marina*	
EN-1: Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources	III	III/ III	III	III	None required
EN-2: Conflict with state or local plan for renewable energy or energy efficiency	III	NI/NI	III	III	None required
Cumulative Impact	Not cumulatively considerable		Not cumulatively considerable		None required

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long-Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

4.8 Geology, Soils, and Coastal Processes

This section describes the existing geological conditions, soils, paleontological resources, and coastal processes in the project area, identifies applicable regional and local rules and regulations regarding geology, soils, paleontology, and coastal processes, provides significance thresholds, assesses the Proposed Project's impacts to geology, soils, paleontology, and coastal processes and their significance, and recommends measures to avoid or substantially reduce any effects found to be potentially significant.

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and considered in preparing this section:

- Assess retaining non-radioactive demolished materials on-site and mixed with on-site soils to minimize truck trips through Avila.
- Analyze the extent to which high-level wastes, pre-empted by the Nuclear Regulatory Commission, are treated in earthquake fault areas.
- Review engineering plans for the cofferdam and the restoration of the Discharge Structure, after demolition, as well as placement of riprap as potential erosion control.
- Include rigorous monitoring and testing of fill materials used on-site that is engineered from crushed clean concrete and soils.
- Identify to what soil depth would contamination be monitored and addressed.
- Identify and assess any floodplain impacts due to the location of the Pismo Beach Materials Handling Facility in relation to Pismo Creek.
- Assess any potential secondary impacts from using fill engineered from crushed clean concrete and soils used on-site.

4.8.1 Environmental Setting

The Proposed Project includes the Diablo Canyon Power Plant (DCPP), the Pismo Beach Railyard (PBR), and Santa Maria Valley Railyard – Betteravia Industrial Park (SMVR-SB). The project site is located in the Central Coast of California, a geographical region that spans from Pigeon Point in San Mateo County southward to Point Conception in Santa Barbara County.

4.8.1.1 Geology and Soils

Regional Geology

The DCPP site is in the Irish Hills in the southern part of the Coast Ranges Geomorphic Province of Central California. The Irish Hills lie west of the Santa Lucia Mountain range, a major topographic feature of the province. The Santa Lucia Mountains is approximately 140 miles long, extending from Monterey to Cuyama River, and approximately 20 to 25 miles wide and consists of Franciscan bedrock and Salinian granitic basement rocks overlain by Cretaceous sedimentary

sequences, Cenozoic sedimentary and volcanic rocks, and Quaternary sediments and volcanic deposits. The Irish Hills are composed predominantly of Tertiary marine sedimentary rock folded in a broad syncline (Pismo syncline) with older Cretaceous rocks exposed along the north and south limbs. The south limb exposures are offshore near DCPP (PG&E, 2014). The Central Coast Ranges are a product of tectonic forces that continue to influence the geological and topographic development of the region, which has included folding, faulting, and uplift, which in turn has resulted in erosion and deposition of sediments in the Project area.

The topography of this area is generally defined by elongated ranges and narrow valleys that generally parallel the coast but trend slightly more northwest than the coastline. Elevations are generally moderate, however, several peaks of the Santa Lucia range that are within 1 mile of the coast reach elevations of more than 2,500 feet (Norris and Webb, 1976). Along the coast, the western side of the hills and valleys have been modified by erosion into a narrow, gently sloping plain. This generally flat and gently sloping surface is an ancient, erosional marine terrace that has been uplifted by tectonic activity in the area.

The PBR site is located within the southern portion of the Coast Ranges Geological Province on the southwestern margin of the San Luis Range. The SMVR-SB site is in the Santa Maria Valley, an east-west trending valley bounded to the north by the San Rafael Range and to the south by the Casmalia Hills and the Solomon Hills.

Topography

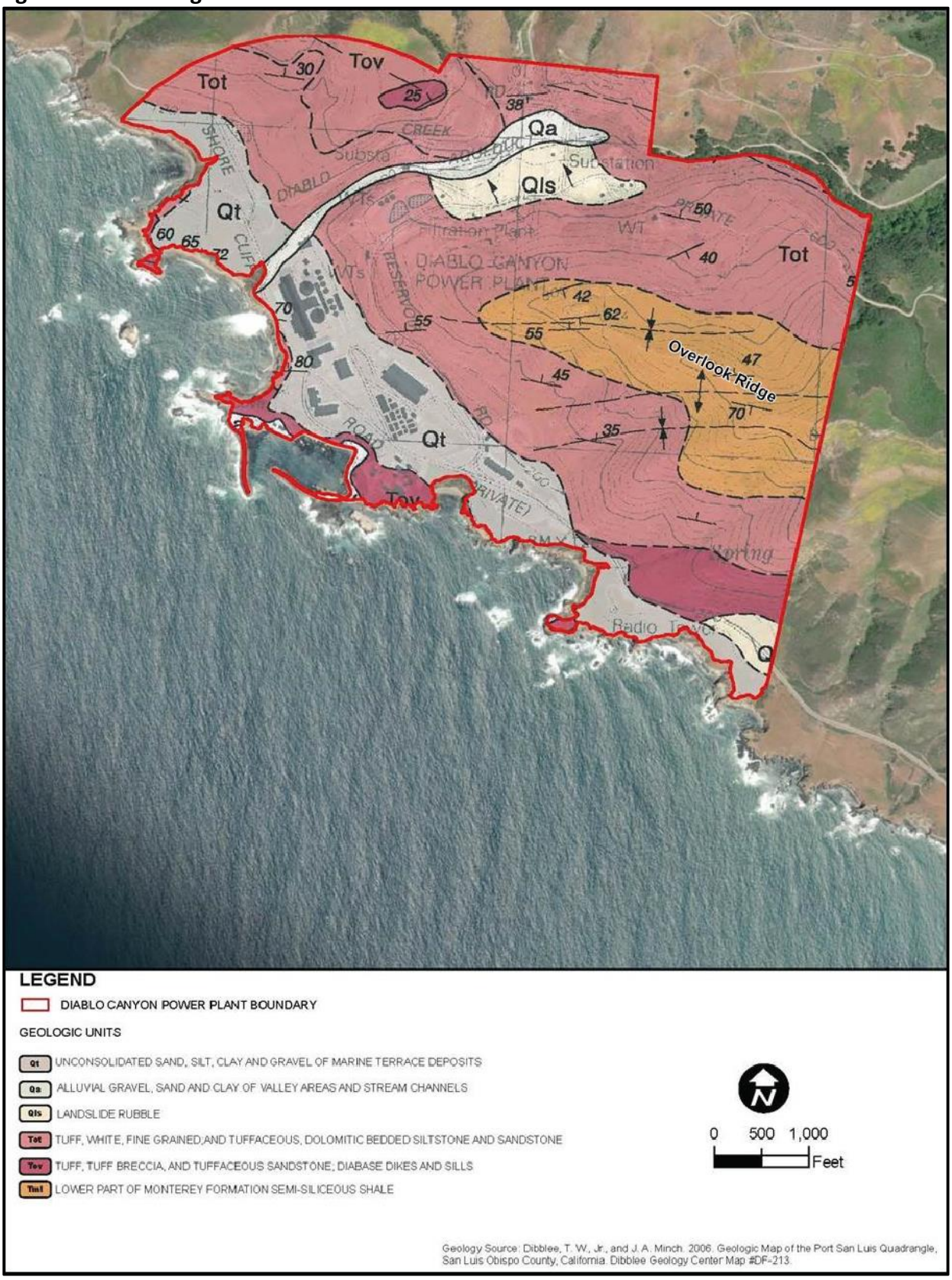
The DCPP site is located along the southwestern slope of the Irish Hills, within the Santa Lucia Mountains and on the erosional coastal marine terrace. Elevations within the DCPP area range from approximately 0 feet above mean sea level (MSL) along the shoreline to approximately 1,000 feet above MSL in the hills near the eastern edge of the DCPP site.

The PBR is located within an alluvial valley and the area ranges in elevation from approximately 30 to 100 feet above MSL and slopes gently to the southwest towards the coast. The SMVR-SB site is located within the Santa Maria Valley, in a relatively flat area with an elevation of approximately 200 feet above MSL.

Geology

The DCPP area is primarily underlain by Quaternary Terrace deposits (Qt), and Tertiary Monterey (Tm and Tml) and Obispo Formations (Tot and Tov) (Dibblee and Minch, 2006a; PG&E, 2014; PG&E, 2023b). Quaternary alluvium (Qa) is mapped along Diablo Creek and landslide deposits (Qls) are mapped in the East Canyon area on the south side of Diablo Creek (Dibblee and Minch, 2006a; PG&E, 2023b). Figure 4.8-1 shows the distribution of these geologic units within the DCPP.

Figure 4.8-1. Geologic Units within the DCPP Site



The general characteristics of the units in the DCPP area are described below:

- Qa – Alluvium. Alluvial gravel, sand, and clay in stream channels and valleys. This material is found along Diablo Creek.
- Qt –Terrace deposits. Unconsolidated sand, silt, and clay formed on marine and river terraces. Primarily found on marine terraces in the DCPP area. The terrace deposits overlie an erosional bench cut into Obispo Formation bedrock and both units are exposed in the natural ocean bluffs in Diablo Cove (Discharge Cove).
- Qls – Landslide deposits. Unconsolidated deposits derived from upslope source material of soil and Obispo Formation tuff and tuffaceous siltstone and claystone.
- Tm/Tml – Monterey Formation. Thin bedded, white weathering siliceous shale, somewhat cherty ™ and lower part of Monterey Formation (Tml) consisting of thin bedded semi-siliceous shale weathering cream white, includes layers of soft fissile shale, platy siliceous shale, siltstone, calcareous shale, and thin hard layers with dolomite concretions.
- Tot/Tov – Obispo Formation. White fine-grained tuff and tuffaceous, dolomitic, fine to medium-bedded siltstone and fine sandstone (Tot) with tuff breccia and small clasts of pumice and perlite and volcanic rocks (Tov) consisting mostly of zeolitic tuff, tuff breccia and tuffaceous sandstone, and includes diabase dikes and sills.

In the 2023 Preliminary Engineering Geology Report for the Decommissioning of the Diablo Canyon Power Plant (Preliminary Engineering Geology Report) by PG&E, the DCPP area mapped can be described in two main geographic areas divided by Overlook Ridge (PG&E, 2023b). North of Overlook Ridge consists of coarse-grained Obispo formation (Tmofb) consisting of dolomite, dolomitic sandstone, sandstone, and siliceous shales (PG&E, 2023b). Overlying the Obispo formation three mapped Pleistocene landslides (Qpls#1, Qpls#3, and Qpls#2 from east to west) extend from near the top of the divide at Overlook Ridge to Diablo Creek. Holocene landslides (Qls) are mapped near the base of the north facing slope. In East Canyon, the toe of the Qpls#2 landslide underlies a narrow trough filled by marine estuarine deposits (PG&E, 2023b). Near the 230 and 500 kV switchyards, and the East Canyon area, artificial fill (af), colluvium and debris flow, and alluvial fan deposits are mapped which overlie marine deposits. Obispo formation mapped south of Overlook Ridge include Obispo tuff forming the resistant seacliffs and finegrained claystone, shale, and siltstone and underlie the marine terrace (PG&E, 2023b). The PBR is underlain by alluvium along Pismo Creek (Dibblee and Minch, 2006b). The SMVR-SB site is underlain by Dune sand deposits (Qos) and remnants of weakly consolidated stream terrace and alluvial fan deposits (Qoa) (Dibblee et al., 2009).

Slope Stability

Important factors that affect the slope stability of an area include the steepness of the slope, the relative strength of the underlying rock material, and the thickness and cohesion of the overlying colluvium. Another indication of unstable slopes is the presence of old or recent landslides or debris flows. The term landslide is a general term for the dislodging and fall of a mass of soil or rocks along a sloped surface, or for the dislodged mass itself. The term is used commonly for varying phenomena, including mudflows, mudslides, debris flows, rockfalls, rockslides, debris avalanches, debris slides, and slump-earth flows.

Geologic mapping (Dibblee and Minch, 2006a) maps the DCPP area as underlain by Quaternary alluvium, terrace deposits and landslide deposits, and Tertiary Monterey and Obispo Formations. Both the Monterey and Obispo Formations have mapped landslides in the hills near to the DCPP and are considered susceptible to landslides (Dibblee and Minch, 2006a). A large, ancient landslide complex within the Obispo Formation is mapped along the slopes on the southeast side of Diablo Creek east of the 500 kV substation (PG&E, 2002; Dibblee and Minch, 2006a). There are three separate Pleistocene landslides and several smaller Pleistocene and Holocene landslides mapped north and east of Overlook Ridge (PG&E, 2023b). The smaller landslides are considered to be reactivated parts of the Pleistocene landslides and the surface landforms suggest Holocene movement although there is no evidence of recent activity (PG&E, 2023b). Reactivated Holocene and/or reactivated Pleistocene landslide deposits are mapped within the revised OCA, above the planned Firing Range, Heavy Haul Loading Road Ramp, and the SE Borrow Site (PG&E, 2023b).

The Patton Cove (the cove located east of the Intake Cove) landslide occupies the majority of the approximately 50-foot-high bluff face (PG&E, 2002). Slide movement was first documented in 1970 and over time, the landslide has been periodically reactivated by heavy rain and wave erosion at the toe of the slide (PG&E, 2002). During the winter of 1996, reactivation of the landslide caused cracks in Shore Cliff Road and a water line break, which suggest encroachment of the landslide into Diablo Ocean Drive (PG&E, 2002). The Patton Cove landslide is actively encroaching the intersection of Diablo Ocean Drive and Reservoir Road (PG&E, 2023b).

Multiple debris flow chutes are mapped on the west side of Overlook Ridge, above Hillside Drive and the Fire Station (PG&E, 2023b). Sources of debris flows are the colluvium-filled hollows below the top of Overlook Ridge (PG&E, 2023b). At the time of DCPP construction, a catchment bench, concrete culverts, and rip rap were installed to reduce the extent of potential debris flows (PG&E, 2023b).

Soils

The soils underlying Project components reflect the underlying rock type, the extent of weathering of the rock, the degree of slope, and the degree of human modification. Potential hazards/impacts from soils include erosion, shrink-swell (expansive soils), corrosion, and compressibility. Soil mapping by the US Department of Agriculture (USDA) National Resource Conservation Service (NRCS) was reviewed for information about unsuitable characteristics of surface and near-surface subsurface soil materials (NRCS, 2022). A summary of the notable characteristics of the soil units underlying the DCPP, PBR, and SMVR-SB sites, listed in numerical not geographic order, are presented in Table 4.8-1. Figure 4.8-2 shows the distribution of these soil associations within the DCPP.

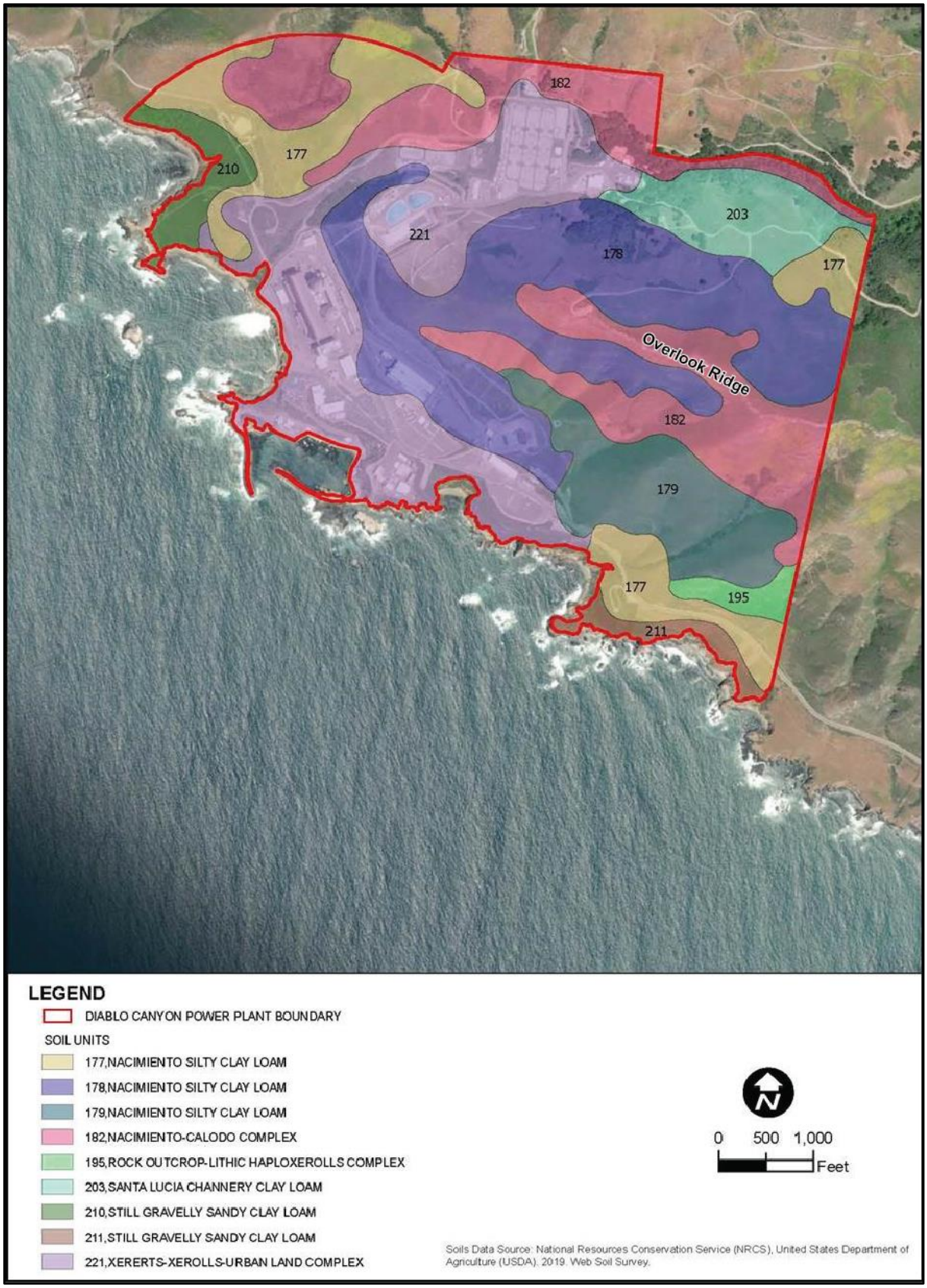
Table 4.8-1. Soil Units Underlying the Proposed Project

		Erosion Class		Expansion Potential (shrink-swell)	Corrosion Potential	
Unit ID	Unit Name	Water	Wind		Uncoated Steel	Concrete
DCPP						
177	Nacimiento silty clay loam	Moderate	Low	Moderate	Moderate	Low
178	Nacimiento silty clay loam	Moderate	Low	Moderate	Moderate	Low
179	Nacimiento silty clay loam	Moderate	Low	Moderate to High	Moderate	Low
182	Nacimiento-Calodo complex	Moderate	Low	Low to Moderate	Low to Moderate	Low
195	Rock outcrop-Lithic Haploxerolls complex	NA	NA	NA	NA	NA
203	Santa Lucia channery clay loam	Low	Low	Low to Moderate	High	Moderate
210	Still gravelly sandy clay loam	Low	Low	Moderate	High	Low
211	Still gravelly sandy clay loam	Low	Low	Moderate	High	Low
221	Xererts-Xeroll-Urban-land complex	NA	NA	NA	NA	NA
PBR						
111	Camarillo sandy loam	Moderate	High	Low to Moderate	Moderate	Moderate
155	Lopez very shaly clay loam	Low	Low	Low	Moderate	Low
179	Nacimiento silty clay loam	Moderate	Low	Moderate to High	Moderate	Low
207	Santa Lucia very shaly clay loam	Low	Low	Low	High	Moderate
SMVR-SB						
GsD	Gazos clay loam	Moderate	Low	Low to Moderate	Moderate	Low
NvA	Narlon sand, hardpan variant	Low to Moderate	High	Low to Very High	High	Moderate

Source: NRCS, 2022.

Potential soil erosion hazards vary depending on the use, conditions, and textures of the soils. The properties of soil that influence erosion by rainfall and runoff affect the infiltration capacity of a soil, as well as the resistance of a soil to detachment and being carried away by falling or flowing water. Sheet erosion occurs when water runs over a large uniform area picking up and distributing soil particles. Rill erosion occurs as concentrated surface runoff begins to remove soil along concentrated zones which numerous small, but conspicuous, water channels or tiny rivulets. Soils on steeper slopes would be more susceptible to erosion due to the effects of increased surface flow (runoff) on slopes where there is little time for water to infiltrate before runoff occurs. Soils containing high percentages of fine sands and silt and that are low in density are generally the most erodible. As the clay and organic matter content of soils increases, the potential for erosion decreases. Clays act as a binder to soil particles, thus reducing the potential for erosion. Erosion potential, as mapped by the NRCS, of the soils underlying the Proposed Project varies from low to moderate for water and is low for wind at DCPP, from low to moderate for water and low to high for wind at PBR, and from low to high for water and low to high for wind at the SMVR-SB, as presented in Table 4.8-1.

Figure 4.8-2. Soil Units Underlying the DCPP Site



Septic Tank Absorption Fields

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Septic tank absorption field ratings evaluate only the soil between depth of 24 and 60 inches and is based on the soil properties that affect the absorption of the effluent, construction and maintenance of the system, and public health. The following soil characteristics affect absorption of the effluent: saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or a cemented hard pan, and flooding. Lateral seepage and surfacing of the effluent in downslope areas may occur on slopes. This rating indicates the extent to which the soil absorption is limited by the soil features. A "not limited" rating indicates that the soil has features that are very favorable for the absorption field use, while "very limited" rating indicates that the soil has one or more features that are unfavorable for the specified use. The septic tank absorption field ratings for the majority of soils underlying the DCPP, with the exception of Soil Units 221 and 195, are very limited (NRCS, 2023). For Soil Units 221 and 195, the septic tank absorption field rating is not limited and not rated, respectively (NRCS, 2023).

At the DCPP, there is an existing septic system located on the slope between the East Canyon area and the lower Diablo Creek terrace south of the Diablo Creek gauging station, which was designed and implemented circa 1968 (PG&E, 2023b). There is also an abandoned leach field located at Hillside Drive near the DCPP Fire Station and north of the existing firing range (PG&E, 2023b).

Subsidence

Land subsidence is a gradual settling or sudden sinking of the ground surface due to removal or displacement of subsurface earth materials. The principal causes include compaction associated with withdrawal of fluids such as groundwater or petroleum, compaction of organic soils, underground mining, or natural compaction or collapse, such as with sinkholes or thawing permafrost. In California, subsidence is typically caused by human withdrawal of fluids (water or petroleum). None of the Proposed Project sites (DCPP, PBR, or SMVR-SB) are located with an area of known subsidence (United States Geological Survey [USGS], 2022c).

Seismicity

The Project area is in a geologically complex and seismically active region which includes both the north-south trending Coast Ranges and the east-west Transverse Ranges. The seismicity of the Project area is dominated by the intersection of the north-northwest trending San Andreas and Coast Ranges faults and the east-west trending Transverse Ranges fault system. These systems are all responding to strain produced by the relative motions of the Pacific and North American Tectonic Plates. This strain is relieved by right-lateral strike-slip faulting on the San Andreas and related faults in the Coast Ranges and offshore, and by vertical, reverse-slip or left-lateral strike-slip displacement on faults in the Coast and Transverse Ranges. The effects of this strain and deformation includes mountain building, basin development, deformation of Quaternary marine terraces, widespread regional uplift, and generation of earthquakes. Both the Transverse Ranges and Coast Ranges areas are characterized by numerous geologically young

faults. These faults can be classified as historically active, active, potentially active, or inactive, based on the following criteria (California Geological Survey [CGS], 1999):

- Faults that have generated earthquakes accompanied by surface rupture during historic time (approximately the last 200 years) and faults that exhibit aseismic fault creep are defined as Historically Active.
- Faults that show geologic evidence of movement within Holocene time (approximately the last 11,000 years) are defined as Active.
- Faults that show geologic evidence of movement during the Quaternary time (approximately the last 1.6 million years) are defined as Potentially Active.
- Faults that show direct geologic evidence of inactivity during all of Quaternary time or longer are classified as Inactive.

Although it is difficult to quantify the probability that an earthquake will occur on a specific fault, this classification is based on the assumption that if a fault has moved during the Holocene epoch, it is likely to produce earthquakes in the future. Activity classification of blind thrust faults and offshore faults are predominantly based on geologic data from deep oil wells, geophysical profiles, historic earthquakes, and microseismic activity along the fault.

Active regional faults capable of producing significant ground shaking at the DCPP, PBR, and SMVR-SB sites are strike-slip faults associated with the San Andreas Fault System, offshore Santa Barbara Channel faults, and reverse and blind thrust faults associated with the compressional folding and faulting of the Coast and Transverse Ranges. Periodic earthquakes accompanied by surface displacement can be expected to continue in the study area through the lifetime of the Proposed Project. Active faults and potentially active faults that represent a significant seismic threat to the Proposed Project are listed in Table 4.8-2. Data presented in this table include estimated earthquake magnitudes, and type of fault. Figure 4.8-3 shows locations of significant active and potentially active faults and historic earthquakes in the Project area and surrounding region.

No active faults or Alquist-Priolo zoned faults cross or are in the immediate vicinity of the Project sites (DCPP, PBR, SMVR-SB). The northwest trending Hosgri fault is located offshore extending 85 miles from San Simeon to west of Lompoc and is estimated to be capable of strong earthquakes. Near DCPP the Hosgri fault is located about 3 miles offshore. The offshore Shoreline fault is the closest fault to the DCPP site and trends north-northwest parallel to the local coastline and does not extend to the Hosgri fault. Little is known about the geometry and activity of the Shoreline fault, and therefore, this fault is not included in Figure 4.8-3. The closest fault to PBR is the San Luis Range fault system (South Margin) located approximately 0.25 miles south of the site. The closest fault to the SMVR-SB site is the Casmalia fault zone located approximately 2.5 miles to the southwest.

While numerous earthquakes of up to magnitude (M) 4.0 commonly occur throughout the region, larger earthquakes are somewhat rare. Only two earthquakes of M5.0 or greater have occurred within 50 miles of the DCPP, with only one of those greater than M6.0 (USGS, 2022b). The largest earthquakes to occur near the Project area was the offshore 1927 M7.1 Lompoc

Earthquake, which caused little damage due to the sparse population onshore near the earthquake at the time (Southern California Earthquake Data Center [SCEDC], 2022).

Table 4.8-2. Significant Active and Potentially Active Faults within 50 miles of DCPP

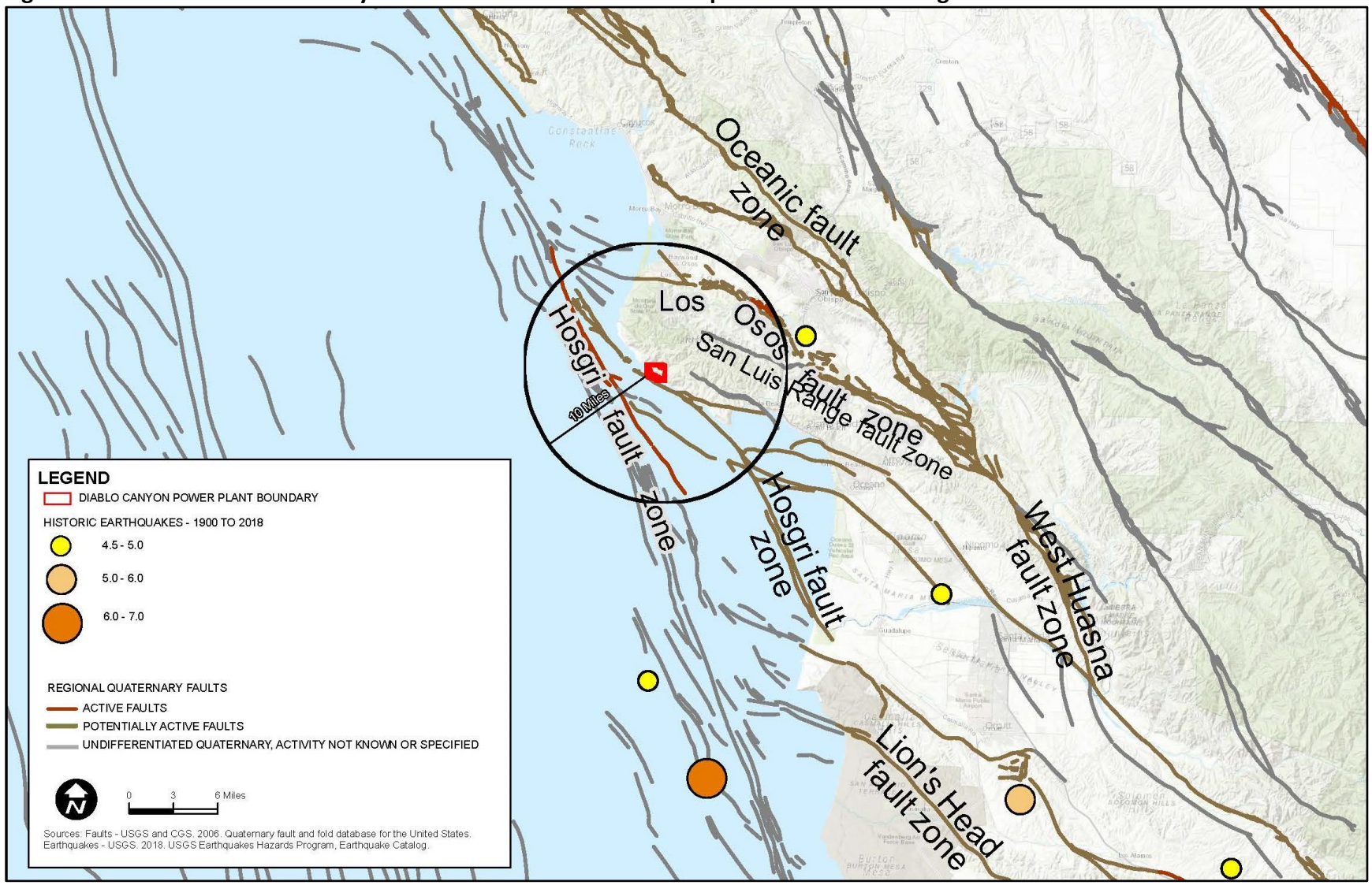
Fault Name	Closest Distance to DCPP (miles)[1]	Estimated Maximum Earthquake Magnitude[2]	Fault Type and Dip Direction[1]
Shoreline (offshore fault)	0.2	NA	Right Lateral Strike Slip, 90°
San Luis Bay (Offshore fault)	1.5	NA	Thrust, 45°SW
Hosgri	3.1	7.3	Right Lateral Strike Slip, 80°E
San Luis Range (South Margin)	4.2	7.2	Thrust, 45°N
Los Osos	6.0	7.0	Thrust, 45°SW
Oceanic-West Huasna	14.0	NA	Thrust, 58°SW
Rinconada	17.9	7.5	Right Lateral Strike Slip, 90°
Casmalia (Orcutt Frontal)	22.5	6.7	Reverse, 75°SW
Lions Head	27.5	6.8	Reverse, 75°NE
Los Alamos – West Baseline	43.6	6.9	Thrust, 30°S
S. San Andreas	47.5	7.1-8.0[3]	Right Lateral Strike Slip, 90°

[1] Fault distances and parameters obtained from USGS Earthquake Hazards Program, 2008 National Seismic Hazard Maps - Source Parameters website (USGS, 2022a) and CGS Quaternary Fault and Fold Database of the United States, (USGS & CGS, 2006).
[2] Maximum Earthquake Magnitude – the maximum earthquake that appears capable of occurring under the presently known tectonic framework, magnitude listed is "Ellsworth-B" magnitude from the USGS Earthquake Hazards Program, 2008 National Seismic Hazard Maps - Source Parameters website (USGS, 2022a), unless otherwise noted.
[3] Range of magnitudes represents varying rupture scenarios of one or more segments along a fault.

Fault Rupture

Fault rupture is the surface displacement that occurs when movement on a fault deep within the earth breaks through to the surface. Fault rupture and displacement almost always follows pre-existing faults, which are zones of weakness; however, not all earthquakes result in surface rupture (i.e., earthquakes that occur on blind thrusts do not result in surface fault rupture). Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. In addition to damage caused by ground shaking from an earthquake, fault rupture is damaging to buildings and other structures due to the differential displacement and deformation of the ground surface that occurs from the fault offset leading to damage or collapse of structures across this zone. In California, Alquist-Priolo Earthquake Fault Zones have been defined by the CGS along active faults with the potential for surface rupture. However, not all active faults have been zoned, as the criteria specifies that a fault must be shown to be "sufficiently active" and "well defined" by detailed site-specific geologic explorations in order to determine whether an Alquist-Priolo Earthquake Hazard Zone can be established with associated building setbacks. Many known active faults are not sufficiently "well defined" at the surface to qualify to be Alquist-Priolo zoned but could still cause significant surface fault rupturing.

Figure 4.8-3. Active and Potentially Active Faults and Historic Earthquakes in the DCPP Region



No known active or potentially active faults cross the DCPP, PBR, and SMVR-SB sites. The offshore Shoreline fault is in close proximity to the DCPP site; however, it is not considered a significant seismic source (PG&E, 2011; United States Nuclear Regulatory Commission, 2012). The closest Alquist-Priolo zoned fault to the DCPP site is a small section of the Los Osos fault, located approximately 6 miles northeast of the DCPP site. Therefore, fault rupture within the DCPP site is unlikely.

Strong Ground Shaking

An earthquake is classified by the amount of energy released, which traditionally has been quantified using the Richter scale. Recently, seismologists have begun using a Moment Magnitude (M) scale because it provides a more accurate measurement of the size of major and great earthquakes. For earthquakes of less than M7.0, the Moment and Richter Magnitude scales are nearly identical. For earthquake magnitudes greater than M7.0, readings on the Moment Magnitude scale are slightly greater than a corresponding Richter Magnitude.

The intensity of the seismic shaking, or strong ground motion, during an earthquake is dependent on the distance between the Project area and the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding the Project area. Earthquakes occurring on faults closest to the Project area would most likely generate the largest ground motion. The intensity of earthquake-induced ground motions can be described using peak ground accelerations (PGAs), represented as a fraction of the acceleration of gravity (g). Peak ground acceleration is the maximum acceleration experienced by a particle on the Earth's surface during the course of an earthquake, and the units of acceleration are most commonly measured in terms of fractions of g, the acceleration due to gravity (980 cm/sec^2).

The CGS Probabilistic Seismic Hazards Ground Motion Interpolator website was used to estimate PGAs at the Project sites. The interpolator uses data from the 2008 Probabilistic Seismic Hazard Assessment Maps (PSHA) to interpolate peak ground accelerations with a 2 percent probability of exceedance in 50 years (return interval of 2,475 years for a maximum considered earthquake) and with a 10 percent probability of exceedance in 50 years (a return interval of 475 years for the maximum considered earthquake) (CGS, 2022). PGAs at the DCPP site for 2 percent probability of exceedance in 50 years is approximately 0.62g and approximately 0.30g for a 10 percent probability of exceedance in 50 years, which correspond to moderate ground shaking. PGAs at the PBR site for 2 percent probability of exceedance in 50 years is approximately 0.58g and approximately 0.28g for a 10 percent probability of exceedance in 50 years, which correspond to low to moderate ground shaking. PGAs at the SMVR-SB site for 2 percent probability of exceedance in 50 years average about 0.47g and approximately 0.27g for a 10 percent probability of exceedance in 50 years, which correspond to low to moderate ground shaking.

Seismic analysis for the Diablo Canyon area is based on the Hosgri fault and concluded that PGAs at the ISFSI for 2 percent probability of exceedance in 50 years is approximately 0.70g and approximately 0.30g for a 10 percent probability of exceedance in 50 years, which correspond to moderate ground shaking (CCC, 2004).

In contrast to the ISFSI seismic analysis for a bedrock site, site conditions at the GTCC Waste Storage facility, indoor Firing Range, Security Building, and Storage Buildings in the revised OCA, are underlain by artificial fill, colluvium, and alluvium (PG&E, 2022a). Seismic analysis for the new

buildings in the OCA is required as part of final engineering design. The Vertical Cask Transporter (VCT) Warehouse would be located on an existing level building pad underlain by Obispo formation (sandstone, dolomitic sandstone, and siltstone) (PG&E, 2023b). The temporary decommissioning office building would be located on Obispo formation (sandstone, siltstone), terrace deposits, and possibly debris deposits (PG&E, 2023b).

Liquefaction

Liquefaction is the phenomenon in which saturated granular sediments temporarily lose their shear strength during periods of earthquake-induced strong ground shaking. The susceptibility of a site to liquefaction is a function of the depth, density, and water content of the granular sediments and the magnitude and frequency of earthquakes in the surrounding region. Saturated, unconsolidated silts, sands, and silty sands within 50 feet of the ground surface are most susceptible to liquefaction. Liquefaction-related phenomena include lateral spreading, ground oscillation, flow failures, loss of bearing strength, subsidence, and buoyancy effects (Youd and Perkins, 1978). In addition, densification of the soil resulting in vertical settlement of the ground can also occur.

To determine liquefaction susceptibility of a region, three major factors must be analyzed. These include: (a) the density and textural characteristics of the alluvial sediments, (b) the intensity and duration of ground shaking, and (c) the depth to groundwater. Unconsolidated sandy sediments with groundwater levels of 50 feet below ground surface (bgs) or less in areas with expected moderate to strong ground shaking are the most susceptible to liquefaction related phenomena.

The DCPP site has three on-site water wells located in Diablo Canyon in the East Canyon area. Two wells are used for monitoring purposes, and one well is an active permitted water supply well (Well #2). In 2021, groundwater levels were measured at Wells #1, #2, and #4 (PG&E, 2021). Wells #1, #2, and #4 are located within 200 to 800 feet south of Diablo Creek, near the north-central DCPP site boundary. Well #1 is located near Diablo Creek and intercepts unconsolidated alluvium. The groundwater depth measured at Well #1 was approximately 38 feet below ground surface (bgs). Wells #2 and #4 are in the Obispo Formation and groundwater levels are much deeper. Depth to water at Well #2 during Spring of 2021 was approximately 150 feet bgs. Groundwater depth measured at Well # 4, located approximately 800 feet south of Diablo Creek, was approximately 248 feet bgs.

The DCPP area is underlain by consolidated and/or cemented sedimentary and volcanic bedrock formations that would not be susceptible to liquefaction. Static groundwater levels were measured at two borehole explorations located in East Canyon, which ranged between 83 and 92 feet bgs (PG&E, 2022a). Due to deep groundwater levels greater than 50 feet in East Canyon and within consolidated Obispo Formation bedrock, specifically within the revised OCA, near the proposed GTCC Waste Storage facility, indoor Firing Range, Security Building, and Storage Buildings, it is unlikely that liquefaction would occur in this area. Within the East Canyon area, landslide deposits are mapped along the steep slopes of the hillsides adjacent to the proposed facilities, as well as the existing septic system and leach field. The landslides deposits are comprised of soil and bedrock rubble and would not be susceptible to liquefaction. There are no proposed facilities located on landslide deposits (PG&E 2022a). The new VCT Warehouse would be located on an existing level building pad underlain by Obispo formation (sandstone, dolomitic

sandstone, and siltstone) (PG&E, 2023b) that would not be susceptible to liquefaction. The temporary decommissioning office building is located on Obispo formation (sandstone, siltstone), terrace deposits, and possibly debris deposits, and may be in an existing cut area likely underlain by competent material (no landslide or fill). The temporary decommissioning office area is underlain by consolidated material that would not be susceptible to liquefaction.

The PBR is underlain by alluvium along Pismo Creek (Dibblee and Minch, 2006b). Groundwater depths in the vicinity of the PBR are approximately 10 feet below ground surface (CDWR, 2022). The PBR is mapped in an area of low to moderate liquefaction potential (San Luis Obispo, 2013).

The SMVR-SB site is underlain by Dune sand deposits and remnants of weakly consolidated stream terrace and alluvial fan deposits (Dibblee et al., 2009). A review of the California Department of Water Resources (CDWR) Water Data Library website indicates water levels in these areas of greater than 100 feet below ground surface. Groundwater measured at a well located approximately 0.2-mile west of the SMVR-SB measured approximately 127 feet below ground surface in 2020 (CDWR, 2022). The sedimentary deposits underlying the SMVR-SB site are not generally expected to be liquefiable due to deep groundwater levels.

Seismically Induced Landslides

Other forms of seismically induced ground failures that may affect the Project area include ground cracking, and seismically induced landslides. Landslides triggered by earthquakes have been a significant cause of earthquake damage. In Southern California, large earthquakes such as the 1971 San Fernando and 1994 Northridge earthquakes triggered landslides that were responsible for destroying or damaging numerous structures, blocking major transportation corridors, and damaging life-line infrastructure. Areas that are most susceptible to earthquake-induced landslides are steep slopes in poorly cemented or highly fractured rocks, areas underlain by loose, weak soils, and areas on or adjacent to existing landslide deposits. As noted above, the DCPP area is located within an area of moderate to steep slopes with existing landslides mapped throughout the hills. An assessment of seismic slope stability was conducted for numerous areas throughout the DCPP where landslides could impact key structures (PG&E, 1997). The assessment revealed that while small slumps, mudslides, and rock topples may occur in an earthquake none of the structures/facilities would be negatively impacted by these slope failures. The PBR and SMVR-SB sites are in flat alluvial valleys and are not subject to seismically induced slope failures.

4.8.1.2 Paleontology

Paleontological resources are any fossilized remains, traces, or imprints of organisms that are preserved in the Earth's crust and are of paleontological interest and provide information about the history of life on Earth. Fossil remains may include bones, teeth, shells, leaves, and wood. They are found in geological deposits within which they were originally buried. Paleontological resources include not only the actual fossils, but also the collecting localities and the geological deposits that contain the fossils. Paleontological resources are considered nonrenewable resources because the organisms they represent no longer exist. Thus, once destroyed, these resources can never be replaced. The following discussion relies heavily on the paleontological

inventory and evaluation report (PIER) for the 2016 Diablo Canyon North Access Road Improvements (Applied Earthworks, Inc., 2016). The PIER was prepared for PG&E, and included a review of the project geotechnical report, scientific literature, geologic mapping, and online records from the University of California Museum of Paleontology (UCMP).

The geologic units underlying the DCPP site, include the following: Quaternary alluvium (Qa), Landslide deposits (Qls), Terrace deposits (Qt), Monterey (Tm and Tml) and Obispo Formations (Tot and Tov). An analysis of the geologic units within the DCPP area (described below) is based on an assessment of the following criteria of paleontological potential of each unit, as defined by the Society of Vertebrate Paleontology (SVP, 2010).

- High Potential: Rock units from which vertebrate or scientifically significant invertebrate, plant, or trace fossils have been recovered have a High Potential for containing additional scientifically significant paleontological resources.
- Low Potential: Rock units poorly represented by fossil specimens in institutional collections, or based on general scientific consensus, are only preserved in rare circumstances; the presence of fossils is the exception, not the rule (e.g., basalt flows or recent colluvium). Rock units with low potential typically do not require impact mitigation measures.
- No Potential: Some rock units have no potential to contain scientifically significant paleontological resources (e.g., high-grade metamorphic rocks, such as gneisses and schists, and plutonic igneous rocks, such as granites and diorites) and require no protection or mitigation measures relative to paleontological resources.
- Undetermined Potential: Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environmental have undetermined potential. They require further study (e.g., a field survey) by a qualified professional paleontologist, as defined by the SVP (2010), to determine the paleontological resource potential of these rock units before a paleontological resource impact mitigation program can be developed. Where no subsurface data are available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy.

The geologic units within the DCPP area are described below and shown in Figure 4.8-1. However, some areas around and beneath existing structures may contain artificial fill of an undetermined thickness. Numerical ages for the geologic units within the DCPP area, except for artificial fill, are based on information provided by the International Commission on Stratigraphy (2022) and are as follows:

- Qa and Qls – Alluvium and Landslide Deposits. These deposits date to the Holocene (11,700 years ago to present). No previously recorded fossils have been documented within the Quaternary alluvial and landslide deposits in the vicinity of the DCPP (Applied Earthworks, Inc., 2016). The Quaternary alluvial and landslide deposits are determined to have a low potential for buried paleontological resources, as the units are generally too young or coarse to contain fossilized remains (Applied Earthworks, Inc., 2016). Holocene-age alluvial deposits, particularly those younger than 5,000 years old, are generally too young to contain fossilized material, but they may overlie sensitive older deposits (e.g., the Monterey Formation and Pleistocene marine terrace deposits) at an unknown depth (SVP, 2010).

- Qt – Terrace deposits. These deposits date to the Pleistocene (2.58 million (Ma) years to 11,700 years ago). The Terrace deposits have produced several fossil localities in the immediate vicinity of the DCPP, thus, the unit is determined to have a high potential for buried paleontological resources (Applied Earthworks, Inc., 2016). Late Pleistocene vertebrates have been found less than 2 miles from the DCPP site, including a fossil specimen of *Microgadus* (cod). Also, three additional vertebrate localities yielded fossil remains of unspecified terrestrial mammal, camel, horse, ground sloth, whale, and dolphin, were found approximately 4 miles south of the DCPP (Applied Earthworks, Inc., 2016).
- Tm/Tml – Monterey Formation. These deposits date to the Middle to Late Miocene (15.97 to 5.33 Ma years ago). The Monterey Formation is a well-documented geologic deposit that has proven to yield significant fossils in the vicinity of the Project, San Luis Obispo County, and throughout California, thus, the unit is determined to have a very high potential for buried paleontological resources (Applied Earthworks, Inc., 2016). Many vertebrate localities have been documented from within the Monterey Formation, including specimens of large sea turtles, whale, dolphins, sea lions, shark bones and teeth, sea cows, desmostylians (extinct marine mammal), fish, birds, among others (Applied Earthworks, Inc., 2016). Within the Monterey Formation, specimens have typically been recovered from within the diatomite and shale deposits, but the limestone and sandstone beds have also yielded abundant remains (Applied Earthworks, Inc., 2016). Also, numerous species of scientifically significant invertebrates, foraminifera, and plants have been found in the Monterey Formation (Applied Earthworks, Inc., 2016). Recent paleontological monitoring took place from August to September 2020, during preconstruction excavations and grading for the North Ranch/Pecho Valley Road Upgrade Project (SWCA Environmental Consultants [SWCA], 2021). This project extends approximately 4.25 miles along Pecho Valley Road on the North Ranch of the DCPP site (SWCA, 2021). Several potentially significant paleontological resources were collected; however, only one specimen (fossil fish skull with pectoral fin) collected from the Monterey Formation, was ultimately deemed significant by the Natural History Museum of Los Angeles County (NHMLA), where it was delivered for curation (SWCA, 2021).
- Tot/Tov – Obispo Formation. These deposits date to the Miocene (23.03 to 5.33 Ma years ago). The Obispo Formation has proven to yield only rare invertebrate specimens; thus, the unit is determined to have a low potential for buried paleontological resources (Applied Earthworks, Inc., 2016). Vertebrate fossils have not been identified in the Obispo Formation (Applied Earthworks, Inc., 2016).

As shown on Figure 4.8-1, the DCPP site includes the Terrace Deposits and the Monterey Formation, which have the potential for high and very high paleontological sensitivity, respectively. The alluvium and landslide deposits in addition to the Obispo Formation have a low sensitivity for paleontological resources.

Quaternary-aged alluvial deposits have a low potential for containing paleontological resources in accordance with criteria set forth by the SVP (2010). Surficial deposits of Holocene age or previously disturbed sediments are determined to have a low paleontological sensitivity because these sediments are too young or unlikely to preserve fossilized remains. No previously recorded fossils have been documented within the Dune sand deposits in the vicinity of the SMVR-SB (Woodring and Bramlette, 1950). Paleontological resources are found within the geologic

deposits or bedrock that underlie the soil layer. Substantial ground disturbance is not expected at the PBR or SMVR-SB sites, thus, the likelihood of encountering paleontological resources during the Proposed Project is low.

4.8.1.3 Coastal Processes

Coastal Zone

The coastal zone boundary for most of California extends approximately 1,000 yards inland and represents the jurisdictional boundary of the CCC. However, this boundary extends farther inland in several areas of the Counties of San Luis Obispo and Santa Barbara because of important habitat, recreational, and agricultural resources. Those areas include the lands surrounding Nipomo Dunes, Hearst Ranch, and other north coast areas; Morro Bay watershed in San Luis Obispo; lands surrounding Guadalupe Dunes and Point Conception; and most of the Carpinteria Valley in Santa Barbara. The DCPP site is located within the unincorporated San Luis Obispo County adjacent to the Pacific Ocean. Approximately two-thirds of the DCPP site is within the coastal zone and approximately one-third is outside the coastal zone (see Figure 1-2). The coastline along the DCPP site is fairly open with several small shallow coves, including Diablo Cove (the Discharge Cove) and Patton Cove (the cove east of the Intake Cove). The PBR site is located within the City of Pismo Beach, with the very southern portion of the PBR site within the coastal zone (see Figure 2-3). The SMVR-SB site is located within unincorporated Santa Barbara County and is not within the coastal zone.

Ocean Circulation

Ocean circulation in California is controlled by a complex set of warm and cold-water masses that produce seasonally driven upwelling events and three major dynamic currents: the Davidson, the California Current, and the Southern California Countercurrent, all of which influence ocean circulation at the project area. The California Current is a north Pacific Ocean current setting southeastward along the west coast of the United States and Baja California (National Oceanic and Atmospheric Administration [NOAA], 2000). The California Current is countered by the Davidson Current, a narrow countercurrent that moves water northwards between the California Current and the coasts of California, Oregon, and Washington during winter months (NOAA, 2000).

Generally, the currents flow north or south parallel to the coast, at various depths, and sometimes in opposite directions from each other depending on the season. During the upwelling season (March through July), strong northwest winds and the south flowing California Current combine with the earth's rotation to drive surface waters away from the shore. These surface waters are replaced by an upwelling of deeper water from offshore. The winter storm season (mid-November through February) is dominated by rough seas and greater mixing of ocean water and the Davidson Current, which flows from south to north within 20 miles of the coast. Further out (50 to 100 miles), the California Current moves north to south. In March, the Davidson Current generally begins to weaken, and the California Current dominates within the nearshore environment. These currents, along with other climatic conditions, influence water temperatures along the coast, with Northern and Central California generally having cooler water than Southern California. The Santa Barbara Channel area is considered a "transition zone" between

the warmer Southern California waters and cooler Central and Northern California waters (California Sea Grant, 2021).

Water Levels

Ocean and coastal water levels within the project area are influenced by four primary factors: (1) astronomical tides, (2) cyclic climatic variations, (3) storm surge and tsunamis, and (4) sea level rise. Sea level rise is discussed as part of Section 7.1, *Climate Change and Sea Level Rise*.

Tides

Tides are the alternate rising and falling of the sea due to gravitational pull of the moon and sun on the earth. Most tides in California, including tides in the project area, are mixed semidiurnal; that is, there are typically two high and two low tides in a 24-hour period (NOAA, 2021). Because the coves in the immediate area of the DCPP site are small and open to the ocean, tides are not amplified by geography (US Atomic Energy Commission, 1972).

Tidal benchmarks and tidal predictions shown in Table 4.8-3 are based on the current 19-year tidal epoch covering the period from 1983 through 2001 at the closest tidal station. The next tidal datum epoch will be based on measurements from 2002 to 2020; however, that is not expected to be published by NOAA until 2025.

Table 4.8-3. Tidal Characteristics at Port San Luis, California

Tidal Benchmark [1]	MLLW (feet)	NAVD88 [2] (feet)
Highest Observed (1/18/1973)	7.65	7.57
Mean Higher High Water	5.33	5.25
Mean High Water	4.62	4.54
Mean Tide Level	2.83	2.75
Mean Sea Level	2.80	2.72
Mean Low Water	1.04	0.96
NAVD88	0.08	0.00
Mean Lower Low Water	0.00	-0.08
Lowest Observed (1/7/1951)	-2.40	-2.48

Source: NOAA, 2003.
[1] NOAA Tidal Station 9412110 for Port San Luis, California
[2] NAVD88: North American Vertical Datum of 1988

Cyclic Climatic Variations

El Niño and the Southern Oscillation (ENSO) is a periodic fluctuation in sea surface temperature and the air pressure of the overlying atmosphere across the equatorial Pacific Ocean (National Centers for Environmental Information, 2021). The warm phase of ENSO is El Niño, while the cool phase is La Niña; these phases are determined by sea surface temperatures in the central equatorial region of the Pacific Ocean. During an El Niño, sea level in the eastern Pacific is well above average, while during a La Niña, the increased flow of cold deep water to the surface acts to lower the sea level.

While ENSO phases represent the sea conditions in the central equatorial region of the Pacific Ocean, the Pacific Decadal Oscillation (PDO) phases represent conditions in the northern Pacific. Similar to ENSO, the warmer or cooler coastal water from the PDO phases results in increases or decreases to the sea level, respectively. Both ENSO phases and the PDO phases influence the Project area.

Storm Surge, Storm Waves, and Tsunamis

Storm surge is the rising of ocean water associated with low-pressure weather systems. PG&E developed a probable maximum storm surge utilizing local buoy data and numerical modeling, which is outlined fully in its *Diablo Canyon Power Plant Units 1 and 2 Flood Hazard Reevaluation Report* (PG&E, 2015). Comparing the average and minimum recorded pressures from an offshore buoy (National Data Buoy Center, Buoy 46028), a storm surge of 2.9 feet was estimated and added to the high-water level model. In addition to storm surge, localized water levels can be greatly affected by storm waves and their associated runup at the shoreline. The maximum estimated wave height outside of the DCPP breakwaters was found to be 44.6 feet (10.3 meters), and the maximum wave crest elevation inside the breakwaters was 12.8 feet North American Vertical Datum of 1988 (NAVD88; PG&E, 2015).

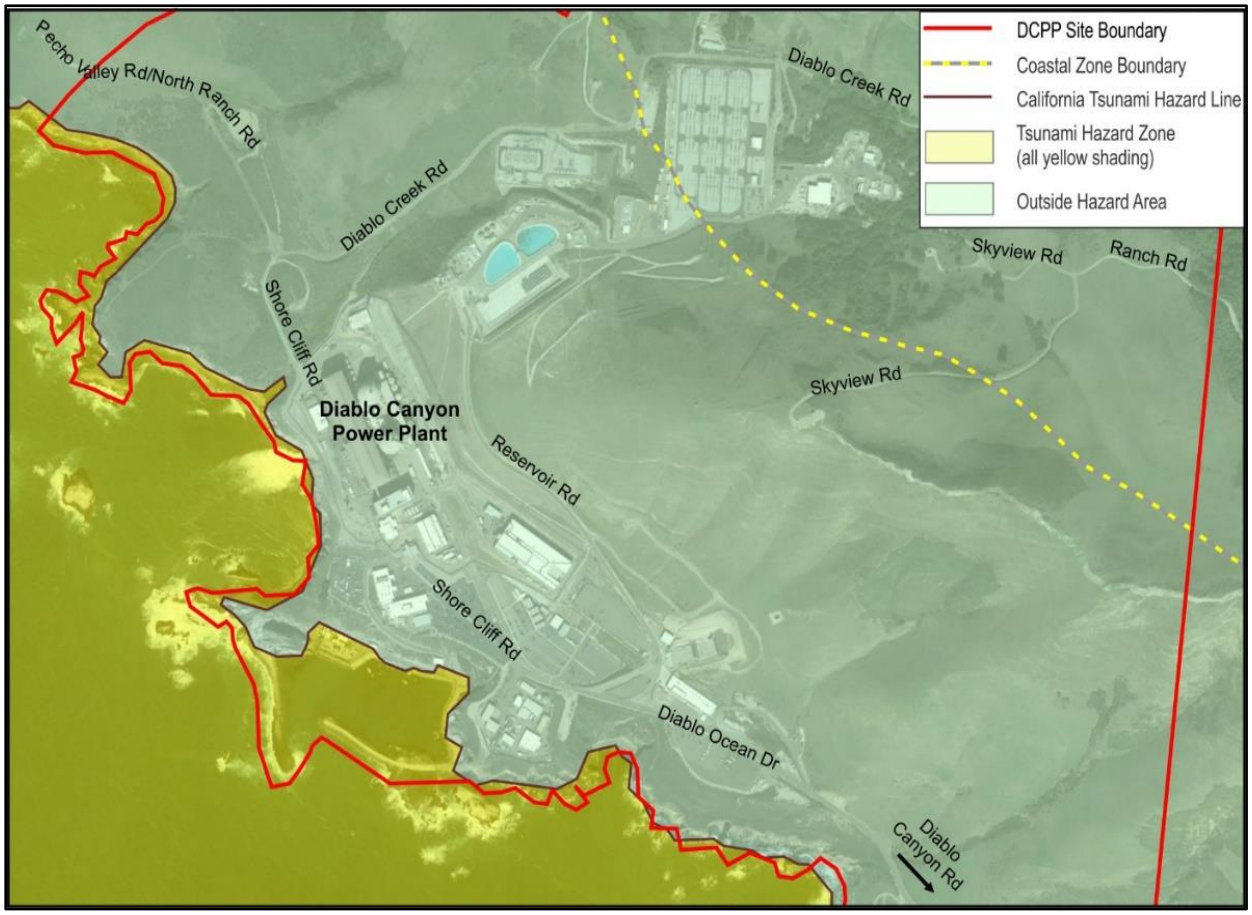
A tsunami is a series of waves in a waterbody caused by the displacement of a large volume of water, such as an earthquake, volcanic eruption, or landslide. Tsunami waves can travel over 600 miles per hour across the open ocean, slowing as the wave approaches land to less than 30 miles per hour and growing significantly in height (San Luis Obispo, 2016).

Historically, large tsunamis have not been common on the Central Coast of California, and few incidents have been recorded. For the County of San Luis Obispo, no tsunamis have exceeded the normal tidal range, though it is expected that faults in the offshore area could generate tsunami wave heights as great as 6 feet (San Luis Obispo, 2016). Most recently, the Hunga Tonga eruption on January 15, 2022, resulted in a tsunami that caused surges that ranged from 2.5 feet over to 4 feet below predicted tide levels throughout the day in the (NOAA, 2022).

The local threat of tsunami-related damage is primarily confined to low-lying coastal areas less than 50 feet above mean sea level (San Luis Obispo, 2016). The Discharge Structure is at the base of the cliffs, the Intake Structure is situated between approximately 20 and 30 feet NAVD88, and the breakwaters have a maximum crest elevation of approximately 20 feet NAVD88. Therefore, the Intake and Discharge Structures, as well as the Marina and Breakwater areas, are within the potential tsunami impact zones. The upper plant area, on top of the cliffs, is all above approximately 85 feet NAVD88, and therefore not within the potential tsunami impact zones.

The California Geological Survey Tsunami Hazard Area Map for San Luis Obispo County (State of California, 2021 shows that tsunamis are not expected to impact the main upland portion of the project site (see Figure 4.8-4). The American Society of Civil Engineers (ASCE)'s Tsunami Hazard Mapping Tool was also used to map risk; the extent of the risk of impact is the same as shown on Figure 4.8-4 (ASCE, 2022).

Figure 4.8-4. Local Tsunami Hazard Map



Source: State of California, 2021.

Littoral Processes

Ocean currents, waves, and winds influence the natural movement of sediment along shorelines, defined as the littoral drift. The California coast primarily has a southerly littoral drift, meaning while sediment moves both north and south along the coast, most sediment gets transported to the south. Various features interrupt the littoral drift patterns, including shoreline direction changes, cliffs, river mouths, and fabricated obstructions like jetties, creating discrete littoral cells along the coast. The California coast is broken into 25 littoral cells; however, the project area is not located within a major littoral cell (Patsch and Griggs, 2007). The *San Luis Obispo County Coastal Regional Sediment Management Plan* (Coastal California Sediment Management Workgroup [CCSMW], 2016) further delineates littoral cells and places the DCPP at the north end of the Santa Maria Cell, with net longshore transport to the southeast, with negligible sediment contribution from bluff erosion (CCSMW, 2016). Most of the sediment for the Santa Maria Cell comes from the Santa Maria River and remains to the southeast of DCPP along Avila Beach, Pismo Beach, and the Oceano Dunes.

The coastline in the area of the DCPP consists of a series of small coves, resistant headlands, sea stacks, and pocket beaches that have been eroded into bedrock sea cliffs (William Lettis &

Associates, Inc. [WLA], 2004).[19,20] The sea cliffs range from 50 degrees to vertical and consist of rock layers, including resistant zeolitized tuff (hard rock made from compressed volcanic ash) and marine sandstone, siltstone, and dolomite. Sea cliff erosion (and associated shoreline retreat) of the bedrock shoreline in the project area is strongly controlled by the wave erosion process and failure mechanisms of the sea cliff. The coves and pocket beaches have formed where waves eroded the softer shale and siltstone rock, leaving resistant rock buttresses and headlands.

A maximum sea cliff retreat over the next 75-year period is anticipated to be 1.0 to 4.5 meters for Diablo Cove and 0.5 to 2.5 meters for Patton Cove (cove southeast of the Intake Cove) (WLA, 2004). The maximum retreat will be localized along the weaker rock beds and will form narrow slots and gullies in the sea cliff on the order of 1 to 5 meters wide, while other areas will experience lesser magnitudes of retreat. The average retreat of the DCPP area sea cliffs is conservatively estimated to be about 3 meters (10 feet) over the next 75-year period.

4.8.2 Regulatory Setting

4.8.2.1 Geology and Soils

California Environmental Quality Act (CEQA). This law encourages the protection of all aspects of the environment by requiring state and local agencies to prepare multidisciplinary analyses of the environmental impacts of a proposed project, and to make decisions based on the findings of those analyses. CEQA also takes into account the laws and procedures of local California jurisdictions.

An evaluation of a project's impacts relating to geology and soils is required under CEQA. The evaluation should include a project's potential to directly or indirectly cause adverse effects in relation to earthquake faults, ground shaking, liquefaction, landslides, erosion, geologic stability, and paleontological resources.

CEQA includes in its definition of historical resources, "any object [or] site …that has yielded or may be likely to yield information important in prehistory" (14 CCR 15064.5[3]), which is typically interpreted as including fossil materials and other paleontological resources. More specifically, destruction of a "unique paleontological resource or site or unique geologic feature" constitutes a significant impact under CEQA (State CEQA Guidelines Appendix G). CEQA does not provide an explicit definition of a "unique paleontological resource," but a definition is implied by comparable language within the act relating to archeological resources: "The procedures, types of activities, persons, and public agencies required to comply with CEQA are defined in: Guidelines for the Implementation of CEQA, as amended March 29, 1999" (Title 14, Chapter 3, California Code of Regulations: 15000 et seq.).

Treatment of paleontological resources under CEQA is generally similar to treatment of cultural resources, requiring evaluation of resources in the project; assessment of potential impacts on

[19] Headlands are areas of the seaside cliffs that are more resistant to erosion than the areas around them, leaving a portion of rocky land projecting into the sea as portions of the cliffs to either side erode.

[20] Sea stacks are columns of rocky land left standing in the sea after the erosion of the cliffs around them.

significant or unique resources; and development of mitigation measures for potentially significant impacts, which may include avoidance, monitoring, or data recovery excavation.

California Public Resources Code. Public Resources Code (PRC) 5097.5 affirms that no person shall willingly or knowingly excavate, remove, or otherwise destroy a vertebrate paleontological site or paleontological feature without the express permission of the overseeing public land agency. Section 5097.5 specifies that any unauthorized removal of paleontological remains is a misdemeanor. Under PRC 30244, any development that would adversely impact paleontological resources shall require reasonable mitigation. These regulations apply to projects located on land owned by or under the jurisdiction of the state or city, county, district, or other public agency.

California Penal Code. Section 622.5 sets the penalties for damage or removal of paleontological resources.

County of San Luis Obispo County General Plan, Safety Element. The San Luis Obispo County General Plan Safety Element outlines the County's applicable goals and policies regarding seismic and geologic hazards (San Luis Obispo, 1999).

Goal S-5: Minimize the potential for loss of life and property resulting from geologic and seismic hazards.

> Policy S-17: Information on faults and geologic hazards in the County should continue to be updated. The County will enforce the General Plan and applicable building codes that require developments, structures, and public facilities to address geologic and seismic hazards through the preparation and approval of geotechnical and geologic reports. Appointment of a County Geologist will improve implementation of the goals, policies, programs and standards of this Element by assuring more objective review and consistent enforcement of hazard mitigation measures county-wide than is possible under the present system of project review.
>
> Policy S-18: Locate new development away from active and potentially active faults to reduce damage from fault rupture. Fault studies may need to include mapping and exploration beyond project limits to provide a relatively accurate assessment of a fault's activity. The County will enforce applicable regulations of the Alquist-Priolo Earthquake Fault Zoning Act pertaining to fault zones to avoid development on active faults.
>
> Policy S-19: The County will enforce applicable building codes relating to the seismic design of structures to reduce the potential for loss of life and reduce the amount of property damage.
>
> Policy S-20: The County will require design professionals to evaluate the potential for liquefaction or seismic settlement to impact structures in accordance with the currently adopted Uniform Building Code.
>
> Policy S-21: The County acknowledges that areas of known landslide activity are generally not suitable for residential development. The County will avoid development in areas of known slope instability or high landslide risk when possible and continue to encourage that developments on sloping ground use design and construction techniques appropriate for those areas.

Policy S-22: Fire and law enforcement agencies will maintain and improve their ability to respond to seismic emergencies throughout the County.

Policy S-23: Development shall not be permitted near the top of eroding coastal bluffs.

County of San Luis Obispo County General Plan, Conservation and Open Space Element. The San Luis Obispo County General Plan Conservation and Open Space Element outlines the County's applicable goals and policies regarding natural resources (San Luis Obispo, 2010).

Goal CR-4: The County's known and potential Native American, archeological, and paleontological resources will be preserved and protected.

Policy CR 4.5 Paleontological Resources: Protect paleontological resources from the effects of development by avoiding disturbance where feasible.

Implementation Strategy CR-4.5.1 Paleontological Studies: Require a paleontological resource assessment and mitigation plan to 1) identify the extent and potential significance of the resources that may exist within the proposed development and 2) provide mitigation measures to reduce potential impacts when existing information indicates that a site proposed for development may contain biological, paleontological, or other scientific resources.

Implementation Strategy CR-4.5.2 Paleontological Monitoring: Require a paleontologist and/or registered geologist to monitor site-grading activities when paleontological resources are known or likely to occur. The monitor will have the authority to halt grading to determine the appropriate protection or mitigation measures. Measures may include collection of paleontological resources, curation of any resources collected with an appropriate repository, and documentation with the County.

County of San Luis Obispo County General Plan, Local Coastal Program, Geologic Study Area Considerations. The Combining Designations and Proposed Public Facilities chapter in the County General Plan, Local Coastal Program (LCP) describes goals, objectives, and implementing strategies for review of projects proposed in the Geologic Study Area (San Luis Obispo, 2018).

Objective 1. Structures for human occupancy are not to be constructed over an active fault area (identified by the Alquist-Priolo Geologic Hazards Zone Act Maps of the San Andreas Fault, on file in the Department of Planning and Building), without county review and approval.

Objective 2. Proposed projects in the Geologic Study Area are subject to site-specific soil and geologic evaluations by a registered civil engineer or engineering geologist (as appropriate) as to the suitability of the site for development in accordance with the Coastal Zone Land Use Ordinances.

County of San Luis Obispo Department of Planning and Building, Onsite Wastewater Treatment Systems Local Agency Management Program. The State Water Resources Control Board adopted Resolution No. 2012-0032, the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS policy) on June 19, 2012. The OWTS policy became effective on May 13, 2013 and established a statewide, risk-based tiered approach for the regulation and management of OWTS. The purpose of Local Agency Management Program (LAMP) is to allow continued use of OWTS within the jurisdiction of the County of

San Luis Obispo as well as to expand the local program to permit and regulate non-conventional OWTS while protecting water quality and public health. The Central Coast Water Board has jurisdiction over the County of San Luis Obispo and authorizes the County of San Luis Obispo Planning and Building Department to issue certain OWTS permits.

The County of San Luis Obispo Department of Planning and Building oversees OWTS permits, projects, and reviews and approves the plans. To obtain a construction permit for the installation of a new or replacement septic system, the applicant shall submit a percolation test design and results of percolation testing performed by a registered civil engineer, registered geologist, or registered environmental health specialist. The qualified professional must develop and submit a layout design for the proposed building project and specific OWTS for review. Prior to approval of the layout design, additional testing (including depth to groundwater measurements during an average rainfall year or grading permits) may be required. Some OWTS permits require County Planning and Building grading permits. Before approval of the OWTS construction permit, the applicant must prove that a potable water supply is available for the project. After approval of the OWTS construction permit, the OWTS can be installed. An inspection prior to backfill of the OWTS is required and appropriate stormwater best management practices must be implemented during construction. At the time of inspection, the engineer's report of system construction shall be collected.

City of Pismo Beach General Plan, Safety Element. The City of Pismo Beach General Plan, Safety Element contains the following relevant policies (Pismo Beach, 2014).

Policy S-1: Risk Identification. The City shall continually provide for the identification and evaluation of existing structural hazards, and abate those hazards to acceptable levels of risk. Specifically:

- Structures within the City's jurisdiction that are old, or suspect of hazards from fire, flooding and geologic events, including bluff retreat, should be inspected by qualified personnel to determine the degree of the hazards. Critical facilities should be inspected prior to non-critical facilities, and public-owned facilities prior to private owned facilities. Structural inspections are a major seismic concern. Susceptibility to damage from flooding should be determined based on the 100-year flood. Fire hazards are best evaluated on a building-by-building basis, by qualified inspection personnel.
- CALTRANS should review its facilities and roadways within the area to determine the potential impact of expected earthquakes and floods and should forward comments to the City.
- The Pacific Gas and Electric Company and the Southern California Gas Company should continue the review of their facilities and distribution/transmission networks and centers, especially with regard to fire and earthquake hazards to ensure adequate and safe service pursuant to the standard of construction, operation and maintenance mandated by the California Public Utilities Commission. Where local standards differ significantly with those of the Commission, the City should inform the commission accordingly in order that such differences be taken into consideration.
- Structures, which have been inspected and found to have a high degree of hazard from earthquake, landslide, fire or flooding should be brought up to an acceptable level of risk or mitigated to reduce the level of risk. Programs used to bring structures up to standards should

include, but not be limited to, structural rehabilitation, flood proofing, occupancy reduction, and demolition and reconstruction.

- The City shall initiate abatement proceedings against structures found to be unsafe.

Policy S-2: New Development. New development within the City's jurisdiction shall be designed to withstand natural and manmade hazards to acceptable levels of risk by:

- Adoption of the most recent safety requirements in the Building and Fire Code.
- Using the planning and technical criteria presented in the Safety Element, as basic guidelines for all new public facilities.
- Evaluating new development, particularly industrial, commercial or utility development, to ensure that construction or operation of the project will not cause hazardous conditions at an unacceptable level of risk.
- Requiring new development to avoid portions of sites with high hazard levels.

Policy S-3: Bluff Set-Backs. All structures shall be set back a safe distance from the top of the bluff in order to retain the structures for a minimum of 100 years, and to neither create nor contribute significantly to erosion, geologic instability or destruction of the site or require construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. The City shall determine the required setback based on the following criteria:

- For development on single-family residential lots subdivided prior to January 23, 1981, the minimum bluff setback shall be 25 feet from the top of the bluff (bluff-top is defined as the point at which the slope begins to change from near horizontal to more vertical). A geologic investigation may be required at the discretion of the City Engineer, and a greater setback may be applied as the geologic study would warrant.
- For all other development, a geologic study shall be required for any development proposed.

Policy S-4: Bluff-top Guidelines/Geologic Studies. Site-specific geologic reports shall incorporate the information requirements contained in the State Coastal Commission's guidelines for Geologic Stability of Bluff-top Development, as adopted May 3, 1977 and updated on December 16, 1981. This guideline is included in the Appendix. The report shall consider, describe and analyze the following:

- A site-specific erosion control plan to assure that the development would not contribute to the erosion or failure of any bluff face shall be prepared by a licensed engineer qualified in hydrology and soil mechanics for all bluff-top development.
- Cliff geometry and site topography, extending the surveying work beyond the site as needed to depict unusual geomorphic conditions that might affect the site.
- Historic, current and foreseeable cliff erosion, including investigation of recorded land surveys and tax assessment records in addition to the use of historic maps and photographs where available and possible changes in shore configuration and sand transport.
- Geologic conditions, including soil, sediment and rock types and characteristics in addition to structural features, such as bedding, joints, and faults.

- Evidence of past or potential landslide conditions, the implications of such conditions for the proposed development and the potential effects of the development on landslide activity.
- Impact of construction activity on the stability of the site and adjacent area.
- Ground and surface conditions and variations, including hydrologic changes caused by the development (i.e., introduction of irrigation water to the ground water system); alterations in surface drainage.
- Potential erodibility of the site and mitigating measures to be used to ensure minimized erosion problems during and after construction (i.e., landscaping and drainage design).
- Effects of marine erosion on sea cliffs;
- Potential effects of seismic forces resulting from a maximum credible earthquake; and
- Any other factors that might affect slope stability.

Policy S-5: Development on Bluff Face. No additional development shall be permitted on any bluff face, except engineered staircases or access-ways to provide public beach access, and pipelines for scientific research or coastal dependent industry. Drain-pipes shall be allowed only where no other less environmentally damaging drain system is feasible and the drainpipes are designed and placed to minimize impacts to the bluff face, toe and beach. Drainage devices extending over the bluff face shall not be permitted if the property can be drained away from the bluff face, toe and beach.

Policy S-6: Shoreline Protective Devices. Shoreline protective devices, such as seawalls, revetments, groins, breakwaters, and riprap shall be permitted only when necessary to protect existing principal structures, coastal dependent uses, and public beaches in danger of erosion. If no feasible alternative is available, shoreline protection structures shall be designed and constructed in conformance with Section 30235 of the Coastal Act and all other policies and standards of the City's Local Coastal Program. Devices must be designed to eliminate or mitigate adverse impacts on local shoreline sand supply, and to maintain public access to and along the shoreline. Design and construction of protective devices shall minimize alteration of natural landforms, and shall be constructed to minimize visual impacts. The city shall develop detailed standards for the construction of new and repair of existing shoreline protective structures and devices. As funding is available, the city will inventory all existing shoreline protective structures within its boundaries.

Policy S-7: Hazards Overlay Zone. Areas where bluff-top hazards exist shall be included within and subject to the requirements of the Hazards Overlay Zone.

Policy S-10: Hazardous Overlay Zone. Land areas subject to hazards associated with steep slope, slope instability and drainage problems shall be included within the Hazardous Overlay and Protection Zone. Generally, all lands in excess of 10% slope shall be included.

Policy S-11: Development Review in Hazardous Overlay Zone. Geologic reports may be required and shall be re- viewed by the appropriate decision-making body, prior to approval of any development permits for projects located within the Hazardous Overlay Zone.

Policy S-12: Education Programs. The City should develop an information program to familiarize citizens with seismic safety issues. School districts and agencies related to aged, handicapped and seismically susceptible industries should be encouraged to develop education programs relative to seismic awareness.

Policy S-13: Development Regulations. The Technical Appendix should be made available to developers for review and use when proposing land development projects.

Development shall be prohibited in:

- Landslide risk areas without site-specific slope stability investigations.
- Areas of high potential liquefaction without site-specific analysis of liquefaction potential.

Policy S-14: Critical Facilities. All critical facilities constructed prior to 1948 should be reviewed by a structural engineer for potential hazards. Since many of these structures have regional impact, the source of funding for the inspection program ought to be at the regional level. All new critical facilities shall be designed to continue functioning after a major earthquake. Emergency communication centers, fire stations, and other emergency service facilities should be examined as to their earthquake resistant capacities. If found below acceptable standards, a program to mitigate potential hazards should be immediately established.

Policy S-15: Brick and Masonry Non-Reinforced Buildings. The City shall adopt ordinance or other mitigation programs to reduce the hazards from brick or masonry non-reinforced buildings. Such regulations shall require building strengthening or demolition.

Policy S-16: Community Programs. Community programs that train volunteers to assist police, fire, and civil defense personnel how to perform effectively after an earthquake, shall be supported.

Policy S-17: New Construction Across Faults Prohibited. New construction directly astride or across known faults, or fault zones, shall be prohibited. Non-structural land uses, however, should not be prohibited.

County of Santa Barbara County Comprehensive Plan, Seismic and Safety Element. The Santa Barbara County Comprehensive Plan Seismic and Safety Element outlines the County's applicable goals and policies regarding geologic and seismic hazards (Santa Barbara, 2015).

Geologic and Seismic Goal 1: Protect the community to the extent feasible from risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche and dam failure; slope instability leading to mudslides and landslides; subsidence, liquefaction and other seismic hazards pursuant to Government Code §65302(g)(1), Chapter 7.8 (commencing with Section 2690) of Division 2 of the Public Resources Code, and other geologic hazards known to the legislative body.

Policy 1: The County shall minimize the potential effects of geologic, soil, and seismic hazards through the development review process.

Policy 2: To maintain consistency, the County shall refer to the California Building Code, the Land Use Development Code, County Ordinances, the Coastal Land Use Plan, and the Comprehensive

General Plan when considering the siting and construction of structures in seismically hazardous areas.

Policy 3: The County shall ensure compliance with State seismic and building standards in the evaluation, design, and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous material manufacture and storage facilities, bridges, large public assembly halls, and other structures subject to special seismic safety design requirements pursuant to the California Code of Regulations, Title 24, Part 2 California Building Code.

Policy 4: The County Office of Emergency Services (OES) shall continue coordinating emergency planning for the Santa Barbara Operational Area pursuant to the California Emergency Services Act of 1970.

Policy 5: Pursuant to County Code Section 21-7(d)(4) and (5), the County shall require a preliminary soil report prepared by a qualified civil engineer be submitted at the time a tentative map is submitted. This requirement may be waived by the Planning Director if he/she determines that no preliminary analysis is necessary. A preliminary geological report prepared by a qualified engineering geologist may also be required by the Planning Director.

Policy 6: The County should reference the Santa Barbara County Multi-Jurisdiction Hazard Mitigation Plan when considering measures to reduce potential harm from seismic activity to property and lives.

As described in Section 1.3.3.2, *Surface Transportation Board*, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction over railyards (e.g., SMVR-SB).

4.8.2.2 Coastal Processes

The primary federal and state laws, regulations, and policies that are applicable to the Proposed Project are summarized in Appendix C. Local and regional laws, regulations, and policies are presented in this subsection.

California Coastal Act. The California Coastal Act of 1976 (Coastal Act) mandates that local governments prepare a land use plan and schedule of implementing actions to carry out the policies of the Coastal Act. The policies established by the Coastal Act focus on the protection of coastal resources and regulate development in the coastal zone, specifically by developing policies to govern land resources, which include environmentally sensitive habitat areas and prime agricultural lands, recreational resources, the marine environment (i.e., streams, wetlands, and coastal waters), scenic resources such as views to and along the ocean, and air quality.

The California Coastal Commission (CCC) originally released their sea-level rise (SLR) policy guidance in August 2015 and then released a science update in November 2018 based on the Ocean Protection Council's (OPC's) 2018 updated *State of California Sea-Level Rise Guidance* (OPC, 2018). The CCC *Sea Level Rise Policy Guidance: Interpretive Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits* document outlines how to address SLR in new and updated Local Coastal Programs and Coastal Development Permits according to the policies of the California Coastal Act (CCC, 2018). While the OPC evaluated

multiple emission scenarios, the CCC recommendations only include the high emission scenarios. The projected SLR estimates for the high emission scenario are shown in Table 4.8-4.

Table 4.8-4. Projected Sea-Level Rise (in Feet) for Port San Luis

	Probabilistic Projections (in feet)		H++ Scenario *Single Scenario
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	Upper limit of "likely range" (~17% probability SLR exceeds…)	*1-in-200 chance (0.5% probability SLR exceeds…)*	*Single scenario (no associated probability)*
2030	0.5	0.7	1.0
2040	0.7	1.2	1.6
2050	1.0	1.8	2.6
2060	1.3	2.5	3.7
2070	1.7	3.3	5.0
2080	2.1	4.3	6.4
2090	2.6	5.3	8.0
2100	3.1	6.7	9.9
2110*	3.2	7.0	11.6
2120	3.7	8.2	13.8
2130	4.3	9.6	16.2
2140	4.8	11.1	18.7
2150	5.4	12.6	21.5

Source: Adapted from OPC, 2018.
* "Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgment of increased uncertainty around these projections." (OPC, 2018)

County of San Luis Obispo Coastal Plan Policies. The *County of San Luis Obispo Coastal Plan Policies* was adopted by the Board of Supervisors in March 1988; it details the County's plan to implement the Coastal Act through both general plan policies and identification of detailed land use recommendations. The County's proposed Land Use Element (LUE)/Land Use Ordinance (LUO) system has been amended to include the standards, programs, and specific actions required to implement the Local Coastal Program (San Luis Obispo, 2007).

The County of San Luis Obispo has special tools available to implement the Local Coastal Program. The County has adopted an LUE and LUO system that has replaced typical general plan designations and zoning districts. The LUE serves as both a graphic statement of County land use policies and intentions about future growth, as well as a precise guide for day-to-day land use decisions. The LUE also coordinates policies and programs in other County general plan elements that have land use implications and serves as a reference point and guide for future planning studies throughout the County. The LUO contains standards for development based more on the effects of specific land uses, than on separate zoning districts (San Luis Obispo, 2007).

Policy 3 (Abandonment of Facilities) of the County's Local Coastal Program is relevant to the Proposed Project and states: "Upon completion or abandonment, all above-ground oil production and processing facilities shall be removed from the site, and the area in which they were located shall be restored by appropriate contouring, reseeding, and planting to conform with surrounding topography and vegetation" (San Luis Obispo, 2007).

County of Santa Barbara Coastal Plan Policies. The County of Santa Barbara's Coastal Land Use Plan (CLUP) lays out the general patterns of development throughout the coastal areas of Santa Barbara County (Santa Barbara, 2019). The CLUP was adopted in 1989 and reissued in 2019. Its purpose is to protect coastal resources while accommodating land use development within the coastal zone (Santa Barbara, 2019). As the Proposed Project is not located in the coastal zone within Santa Barbara County, specific policies are not relevant.

4.8.3 Significance Criteria

For purposes of this EIR, the following thresholds, which are based on Appendix G of the California Environmental Quality Act Guidelines (Environmental Checklist) and the Proposed Project's coastal location, were used to determine if the Proposed Project would result in impacts related to geological conditions, soils, and coastal processes.

4.8.3.1 Geology and Soils

- Directly or indirectly result in substantial adverse effects, including the risk of loss, injury, or death involving 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.
- Directly or indirectly result in substantial adverse effects, including the risk of loss, injury, or death involving seismically induced ground shaking or seismically induced ground failures such as landslides or liquefaction related phenomena.
- Exacerbate any existing geologic hazard, including coastal hazards such as flooding, wave runup, tsunamis, and bluff erosion and instability.
- Result in substantial soil erosion or the loss of topsoil.
- 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.
- 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.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- 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.

4.8.3.2 Coastal Processes

- Place new structures in locations that would be exposed to coastal hazards within the Project design life.
- Substantially impair nearshore sediment properties, characteristics, or processes including changes to bluff, beach, or nearshore resources, and sediment transport in a manner which would:
  - Impair longshore and cross shore sediment transport or wind transport of sediment;
  - Increase or decrease bluff erosion; or
  - Increase beach narrowing and shoreline erosion, and beach or nearshore profile steepening.
- Result in changes to nearshore wave, water current, or water circulation properties, characteristics, or patterns.
- Include a design element that would increase the effects of sea level rise or storm events due to climate change.

4.8.4 Environmental Impact Analysis and Mitigation

4.8.4.1 Geology and Soils

This section presents discussion of impacts related to geologic, soil, and seismic conditions and mitigation measures for the Proposed Project. Geologic conditions were evaluated with respect to the impacts the Project may have on local geology and soils, as well as the potential for the Project to create new or exacerbate existing specific geologic hazards.

Impact GEO-1: Expose structures, workers, and the public to damage or injury due to surface fault rupture, strong earthquake-induced ground shaking, seismically induced slope failures, liquefaction-related phenomena, expansive or unsuitable soils (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

The closest fault to the DCPP is the offshore Shoreline fault, located 0.2 mile from the DCPP. The closest Alquist-Priolo zoned fault to the DCPP is the Los Osos fault, located 6 miles northeast of the DCPP. Near DCPP the Hosgri fault is located about 3 miles offshore. No known active or potentially active faults cross or are in the immediate DCPP vicinity.

The DCPP would be subject to ground shaking from a large earthquake on any of the major faults in the region. Moderate ground shaking should be expected in the event of an earthquake on the faults near the DCPP, with estimated PGAs of 0.62g for a 2 percent probability of exceedance in 50 years and of 0.30g for a 10 percent probability of exceedance in 50 years (CGS, 2022). While the shaking would be less severe from small earthquakes or earthquakes that originate farther from the DCPP, the effects from nearby or regional earthquakes could be damaging to existing Project structures and proposed new structures, such as the GTCC Waste Storage Facility, indoor Firing Range, Security Building, and Storage Buildings.

The DCPP is located within an area of moderate to steep slopes with deep-seated bedrock landslides mapped south of Diablo Creek near the existing switchyards (PG&E, 1997). PG&E (1997) assessed seismic slope stability for numerous areas throughout the DCPP where landslides could impact key structures. The assessment revealed that while small slumps, mudslides, and rock topples may occur in response to earthquake shaking, none of the structures/facilities would be negatively impacted by these slope failures (PG&E, 1997).

The Patton Cove landslide does not presently impact new buildings; however, it has encroached to a point where Diablo Ocean Drive will need to be re-routed inland to allow for continued plant operation and decommissioning. Rerouting of the road will be undertaken as a separate project tied to the operation of the power plant. The Pleistocene and Holocene reactivated landslides mapped east of Overlook Ridge may impact the indoor firing range, heavy haul loading ramp, and the SE Borrow Site. These landslides are required to be evaluated to identify corrective grading or stabilization options, alternative foundation schemes, or setback requirements during final design and preparation of the SE Borrow Site excavation and reclamation plan.

The DCPP is underlain by consolidated and/or cemented sedimentary and volcanic bedrock formations that would not be susceptible to liquefaction. Due to groundwater levels greater than 50 feet in East Canyon, specifically near the proposed GTCC Waste Storage facility, indoor Firing Range, Security Building, and Storage Buildings, it is unlikely that liquefaction would occur in this area. Within the East Canyon area, landslide deposits are mapped along the steep slopes of the hillsides adjacent to these proposed facilities, as well as the existing septic system and leach field. Landslide deposits may extend below the proposed structures. The landslides deposits are not susceptible to liquefaction. The new VCT Warehouse would be located on an existing level building pad underlain by Obispo formation (sandstone, dolomitic sandstone, and siltstone) (PG&E, 2023b) that would not be susceptible to liquefaction. The temporary decommissioning office is underlain by consolidated material that would not be susceptible to liquefaction.

Most of the soils underlying the DCPP have low to moderate expansive potential. Expansive soils may cause differential and cyclical movements of foundations that can cause damage and/or distress to structures and equipment. Soils within the DCPP have corrosion potential of low to high for corrosion of uncoated steel and low to moderate for corrosion of concrete. In areas where corrosive subsurface soils underlie the DCPP, the corrosive soils could have a detrimental effect on concrete and metals. Depending on the degree of corrosivity of subsurface soils, concrete and reinforcing steel in concrete structures and bare-metal structures exposed to these soils could deteriorate, eventually leading to structural failures.

The Proposed Project would be designed and constructed in accordance with all applicable federal, state, and local codes relative to seismic criteria. Construction of the GTCC Waste Storage Facility would be similar in design to the ISFSI and constructed in accordance with NRC regulations. New facilities at the DCPP site are located in a Geologic Study Area as outlined in the County's Coastal Zone Land Use Ordinance and require a site-specific soil and geologic evaluation (Geotechnical Engineering Report) prepared by a California registered civil engineer and engineering geologist prior to approval of a Land Use Permit. Once the County issues a building permit, the design recommendations in the Geotechnical Engineering Report are enforced by the County through inspections and close monitoring of building construction.

In March 2023, PG&E completed a Preliminary Engineering Geology Report for the DCPP site (PG&E, 2023b). This report included compiled data from previous studies at the DCPP site and describes, at a preliminary level, geologic constraints and hazards for decommissioning activities with reference to current building and engineering codes. Geologic hazards evaluated in the report included landslides, earthquakes, liquefaction, tsunami, seiche, erosion, and expansive soils. Mitigation Measure (MM) GEO-1 (*Final Engineering Geology Report and Geotechnical Investigation*) requires submittal of a construction-level Engineering Geology Report updating the Preliminary Engineering Geology Report (PG&E, 2023b) with a seismic hazard assessment and site-specific recommendations for the East Canyon area to guide design and County building permitting of the proposed new structures including the new GTCC Waste Storage Facility, indoor Firing Range, Security Building, and Storage Buildings. The report shall also address the Coastal area site grading, Blufftop Road realignment and the Diablo Creek crossing. In addition, a Geotechnical Engineering Report prepared by a County-approved geotechnical engineer must also be submitted and address all proposed project activities to support the project's submittals for County building permits. The Geotechnical Report would provide site-specific recommendations for County building permitting of the proposed new structures including the GTCC Waste Storage Facility, indoor Firing Range, Security Building, and Storage Buildings, and provide recommendations for cut and fill grading, use of concrete fill, and final site restoration activities for the project, including the Blufftop Road relocation and Diablo Creek Road crossing.

The County would review these reports and ensure that all recommendations and requirements are incorporated to Building permits for the site prior to permit issuance. The potential for Project impacts related to surface fault rupture, strong earthquake-induced ground shaking, seismically induced liquefaction phenomena, and expansive and corrosive soils at the DCPP, would be less than significant with implementation of MM GEO-1 (Class II).

Railyards

Pismo Beach Railyard. The closest fault to PBR is San Luis Range fault system (South Margin), located 0.25 mile to the south. No known active or potentially active faults cross or are in the immediate PBR vicinity, thus, there is no potential for damage to the approximately 1,100 feet of railroad track to be refurbished at the PBR or hazards to people from the Proposed Project from surface fault rupture. Therefore, there would be no impact related to surface fault rupture at the PBR.

Low to moderate ground shaking should be expected in the event of an earthquake on the faults near the PBR, with estimated PGAs of 0.58g for a 2 percent probability of exceedance in 50 years and approximately 0.28g for a 10 percent probability of exceedance in 50 years (CGS, 2022). These PGA values correspond to low to moderate ground shaking, which could cause damage to structures. The Proposed Project would refurbish the PBR, including replacing a portion of railroad track, wood railroad ties, and adding gravel. Proposed infrastructure modifications at PBR do not include any planned new structures, grading, or substantial ground disturbance (see Section 2.3.4, *Modifications and Operations at Rail Facilities*).

While the potential for strong earthquake-induced ground shaking at the PBR is unavoidable, no habitable structures are planned that would expose people to significant hazards due to

seismic shaking. The impact related to strong earthquake-induced ground shaking at the PBR would be less than significant (Class III).

The PBR site is in a flat alluvial valley and is not subject to seismically induced slope failures. Therefore, there would be no impact related to seismically induced slope failures at the PBR.

The PBR site is mapped in an area of low to moderate liquefaction potential (San Luis Obispo, 2013). While the potential for liquefaction related phenomena at the PBR is unavoidable, the Proposed Project would not cause or accelerate geologic hazards related to liquefaction, which would expose people or structures to potential adverse effects, including the risk of loss, injury, or death. The impact related to liquefaction related phenomena at the PBR would be less than significant (Class III).

Soils mapped in the PBR site have low to high shrink-swell potential. Soils within the PBR site have corrosion potential of moderate to high for uncoated steel and low to moderate for concrete. Shrink-swell potential and corrosion potential of soils underlying the PBR site would not be affected by, nor would it affect, infrastructure modifications proposed at PBR.

Expansive or unsuitable soils would only be a problem for components of the Proposed Project at the PBR where new structures are being installed at or below the ground surface within native soils. Proposed infrastructure modifications at PBR do not include any planned new structures, grading, or substantial ground disturbance (see Section 2.3.4, *Modifications and Operations at Rail Facilities*). Therefore, there would be no impact related to expansive or unsuitable soils at the PBR.

SMVR-SB. The closest fault to the SMVR-SB site is the Casmalia fault zone, located about 2.4 miles from the SMVR-SB site. No known active or potentially active faults cross or are in the immediate SMVR-SB vicinity, thus, there is no potential for damage to the refurbishment of the existing rail spurs or hazards to people from the Proposed Project related to surface fault rupture. Therefore, there would be no impact related to surface fault rupture at the SMVR-SB site.

Low to moderate ground shaking should be expected in the event of an earthquake on the faults near the SMVR-SB site, with estimated PGAs averaging about 0.47g for a 2 percent probability of exceedance in 50 years and approximately 0.27g for a 10 percent probability of exceedance in 50 years (CGS, 2022). These PGA values correspond to low to moderate ground shaking, which could cause damage to structures; however, no new structures are being constructed at the SMVR-SB site.

Proposed infrastructure modifications at the SMVR-SB site includes mostly at-grade temporary components. The existing rail spurs at the SMVR-SB site would be refurbished and no grading is planned as part of the proposed site improvements (see Section 2.3.4, *Modifications and Operations at Rail Facilities*).

While the potential for seismically induced ground shaking at the SMVR-SB site is unavoidable, no habitable structures are planned in the SMVR-SB site that would expose people to significant hazards due to seismic shaking. The impact related to strong earthquake-induced ground shaking at the SMVR-SB would be less than significant (Class III).

The SMVR-SB site is in a flat alluvial valley and is not subject to seismically induced slope failures. Therefore, there would be no impact related to seismically induced slope failures at the SMVR-SB site.

Liquefaction related phenomena are unlikely to occur in the SMVR-SB site as the area is not likely to experience strong ground shaking. The sedimentary deposits underlying the SMVR-SB are not generally expected to be liquefiable due to deep groundwater levels. Groundwater measured at a well located approximately 0.2-mile west of the SMVR-SB measured approximately 127 feet below ground surface in 2020 (CDWR, 2022). The impact related to liquefaction related phenomena at the SMVR-SB site would be less than significant (Class III).

Soils mapped in the SMVR-SB site have low to very high shrink-swell potential. Soils within the SMVR-SB site have corrosion potential of moderate to high for uncoated steel and low to moderate for concrete. Shrink-swell potential and corrosion potential of soil underlying the SMVR-SB site would not be affected by nor would it affect infrastructure modifications proposed at the SMVR-SB site.

Expansive or unsuitable soils would only be a problem for components of the Proposed Project at the SMVR-SB site where new structures are being installed at or below the ground surface within native soils. Proposed infrastructure modifications at the SMVR-SB site do not include any new structures, grading, or substantial ground disturbance (see Section 2.3.4, *Modifications and Operations at Rail Facilities*). Therefore, there would be no impact related to expansive or unsuitable soils at the SMVR-SB site.

Phase 2

Phase 2 geology and soils impacts (Impact GEO-1) are the same as Phase 1. The remaining demolition, site grading, and final site restoration planned for Phase 2 would have the same impact related to surface fault rupture, strong earthquake-induced ground shaking, seismically induced liquefaction phenomena, and expansive and corrosive soils at the DCPP, which would be less than significant with mitigation (Class II).

Additionally, Phase 2 includes the continued demolition and backfill of the Discharge Structure.

Following full removal of the Discharge Structure, which includes the tunnel extending 30 feet into the bluff, a void would be left in the bluff. This void would be restored through installation of layers of different materials that blend with the natural stratigraphy of the bluff. The bluff restoration is comprised of four different zones with each zone utilizing a different material that progressively decreases in size as elevation along the bluff increases (see Figures 2-27 and 2-28). Each zone represents a gradual transition in material from 1-ton quarry rock at the base to soil at the crest. The volume of material for the bluff restoration was developed considering loss of material within the voids of the underlying zone such that a separation geotextile is not needed, and no grouting is proposed. The geometric configuration of the bluff restoration was selected by PG&E to match as closely as possible the configuration of the surrounding bluff. The larger 1-ton quarry rock, which is expected to be sourced from Santa Catalina Island, placed at the base would function to resist erosion from wave action.

Based on the conceptual design, the bluff restoration area would exhibit a slope of approximately 43 degrees, which is equivalent to or less than the commonly accepted angle of repose of angular rock/gravel. The different layers would create flexible infill that is able to resist erosion while adapting to the evolving configuration of the surrounding bluff. This approach to backfilling is inherently stable and would maintain the natural profile of the bluff and allow for upland and intertidal restoration (PG&E, 2023a). Additional geotechnical evaluation of the bluff restoration configuration, including slope stability analysis under static and dynamic conditions, would be completed as part of the detailed design (PG&E, 2023b).

The backfill design needs to consider the seismic and coastal processes (e.g., wave erosion, sea level rise) within Diablo Cove. MM GEO-2 (*Seismic Hazard and Coastal Processes Assessment of Discharge Structure Backfill*) requires an analysis of seismic conditions affecting the final design of the Discharge Structure backfill. Final selection of backfill materials, size, and construction methods shall follow standard coastal engineering practice for rock revetments. The analysis shall consider effects of wave erosion and sea level rise. Marine engineering analyses shall consider design standards such as the US Army Corps of Engineers (USACE) *Shore Protection Manual* (USACE, 1984), USACE *Coast Engineering Manual* (USACE, 2008), and California Coastal Commission's *Sea Level Rise Policy Guidance: Interpretive Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits* document (CCC, 2018). The County is responsible for reviewing, approving, and enforcing the construction materials and methods discussed in the conclusions of the seismic analysis. The potential for impacts related to strong earthquake-induced ground shaking and coastal processes on the Discharge Structure backfill would be less than significant with implementation of MM GEO-2 (Class II).

Post-Decommissioning Operations

New Facility Operations. No active or potentially active faults cross or are in the immediate Project vicinity. Thus, there is no potential for fault rupture during Project operation. Seismically induced ground shaking and landslides, liquefaction, and expansive or corrosive soils could cause structural damage during Project operation; however, the Proposed Project components, such as the GTCC Waste Storage Facility, indoor Firing Range, Security Building, and Storage Buildings would be designed and constructed in accordance with all applicable federal, state, and local codes relative to seismic criteria. Operation impacts associated with the continued use of the GTCC Waste Storage Facility, indoor Firing Range, Security Building, and Storage Buildings would be the same as Phase 1. The impacts related to surface fault rupture, strong earthquake-induced ground shaking, seismically induced liquefaction phenomena, and expansive and corrosive soils at the DCPP site during Project operation, would be less than significant (Class III).

Future Actions. Following full closure of the DCPP site, the site and facilities would undergo Final Status Surveys to confirm that any residual levels of radionuclides have been removed and or decreased to the NRC-approved site release criteria. At that time, the Marina could be released for recreational, educational, or commercial purposes. PG&E would lease the Marina to a third party, which would perform limited site improvements and operate the facility. The limited site improvement planned for the Marina would have the same impact related to surface fault rupture, strong earthquake-induced ground shaking, seismically induced liquefaction phenomena, and expansive and corrosive soils at the DCPP, which would be less than significant (Class III).

Mitigation Measures for Impact GEO-1.

GEO-1 **Final Engineering and Geology Report and Geotechnical Investigation.** At least 90 days prior to the submittal of any construction permits related to Decommissioning or new any structures on the site, the Applicant shall submit the following to the County for review and approval:

A Project-specific, construction-level geologic hazard assessment for the DCPP Project site area, updating the Preliminary Engineering Geology Report (PG&E, 2023b), is required to be submitted. The Final Engineering Geology Report prepared by a California licensed engineering geologist would include a detailed seismic hazard assessment and site-specific recommendations for the East Canyon area to guide design and County building permitting of the proposed new structures including the GTCC Waste Storage Facility, indoor Firing Range, Security Building, and Storage Buildings. The report shall also address the Coastal area site grading, Blufftop Road realignment and the Diablo Creek Road crossing. The geologic hazard assessment and site-specific design-level recommendations must comply with the requirements of California Geological Survey SP-117A (CGS, 2008) and the County General Plan Safety Element Policies S-17, S-19, S-20, and S-21 to evaluate and address geologic and seismic hazards, landslides, slope stability, liquefaction, and seismic settlement, and must satisfy the performance standards established therein.

1. Preparation of a Project-specific geotechnical investigation is required. Submittal of a Geotechnical Engineering Report prepared by a County-approved geotechnical engineer that covers the entire project site area and addresses all proposed project activities to support the project's construction submittals for building permit. The Geotechnical Report shall reference prior soils reports prepared for the site as well as the Final Engineering Geology seismic hazard assessment and shall provide site-specific geotechnical recommendations for the East Canyon area to guide design and County building permitting of the proposed new structures including the GTCC Waste Storage Facility, indoor Firing Range, Security Building, and Storage Buildings. The report shall also provide geotechnical recommendations for subgrade demolition, cut and fill grading, use of concrete fill, the Discharge Structure, and final site restoration activities for the project, including the Blufftop Road relocation and Diablo Creek Road crossing.

2. The County Department of Planning & Building shall review and accept these reports and obtain concurrence from the County Geologist, prior to acceptance of any applications for construction permits to ensure that all recommendations and requirements are incorporated to permits submitted. Prior to any construction Permit Final or Certificate for all construction permits related to the Decommissioning, the applicant's Geotechnical Engineer and Engineering Geologist shall provide written verification to County Planning and Building that all geologic and geotechnical requirements were adhered to during construction under that permit.

GEO-2 **Seismic Hazard and Coastal Processes Assessment of Discharge Structure Backfill.** At least 90 days prior to County issuance of any permit for decommissioning activities, the Applicant or its designee shall prepare and submit an assessment of seismic and coastal processes effects to support final design of the backfill for the Discharge Structure area. The Discharge Structure-specific Seismic Hazard and Coastal Processes Assessment analysis shall address the seismic, wave erosion, and sea level rise conditions within Diablo Cove. The analysis shall include seismic analysis and coastal engineering to determine the material, size, and placement of the backfill material to withstand local conditions. Engineering analysis shall consider standard design standards such as the US Army Corps of Engineers (USACE) *Shore Protection Manual* (USACE, 1984) and the USACE *Coast Engineering Manual* (USACE, 2008), as well as the California Coastal Commission's *Sea Level Rise Policy Guidance: Interpretive Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits* document (CCC, 2018). The analysis and design shall consider the backfill of the Discharge Structure removal area and the adjacent shoreline and bluff that may be disturbed during removal and backfill activities. Recommendations shall be incorporated into the final design of the backfill for the Discharge Structure area.

Impact GEO-2: Trigger erosion of loosened sediments or cause slope failure due to grading, excavation, and removal of surface impervious materials (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

The demolition/removal of DCPP structures and other Project-related components, as well as grading, could loosen soil and accelerate erosion. Soils containing high percentages of fine sands and silt and that are low in density, are generally the most erodible. As the clay and organic matter content of soils increases, the potential for erosion decreases. Clays act as a binder to soil particles, thus reducing the potential for erosion. Soils underlying the DCPP site have a low to moderate susceptibility to sheet and rill erosion by water and a low susceptibility to erosion by wind.

The Proposed Project would comply with all NPDES permit requirements, including the Construction General Permit (CGP) (AC WQ-1, *Construction General Permit*), which would be implemented by PG&E. The CGP includes implementation of a site-specific Stormwater Pollution Prevention Plan (SWPPP) (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*), which would contain erosion and sediment control plans that would provide guidance for placement of erosion and sediment controls per CGP requirements. Chapter 70 of the CBC regulates grading activities, including drainage and erosion control. Additionally, erosion and the loss of topsoil at areas of ground disturbance within the Proposed Project would be further minimized by provisions, such as sediment basins, silt fences, straw wattles, drainage devices, drainage inlet protection, and appropriate outlet devices, which would be included in the grading permit required by San Luis Obispo County. Compliance with these requirements would result in a less than significant impact (Class III).

Railyards

Pismo Beach Railyard. Proposed infrastructure modifications at the PBR could loosen soil and accelerate erosion; however, the exposure of soils is not anticipated. Soils underlying the PBR site have a low to moderate susceptibility to sheet and rill erosion by water and a low to high susceptibility to erosion by wind. The PBR is in a flat alluvial valley and is not subject to landslides or other slope stability issues.

Use of the PBR site during decommissioning activities would be similar to its current use, and there would be no removal of structures or changes to impervious surfaces. As such, there would be no increased risk of soil erosion. The impact from construction triggered erosion or slope failure at the PBR site would be less than significant (Class III).

SMVR-SB. Proposed infrastructure modifications at the SMVR-SB site could loosen soil and accelerate erosion; however, the exposure and disturbance of soils is not anticipated. Soils underlying the SMVR-SB site have a low to high susceptibility to sheet and rill erosion by water and a low to high susceptibility to erosion by wind. The SMVR-SB site is in a flat alluvial valley and is not subject to landslides or other slope stability issues.

No new development is proposed at the SMVR-SB site, and only minor infrastructure modifications are anticipated. There would be no removal of structures or changes to impervious surfaces; therefore, there would be no increased risk of soil erosion. The impact from construction triggered erosion or slope failure at the SMVR-SB site would be less than significant (Class III).

Phase 2

Phase 2 includes continued removal of the Discharge Structure extending from the shoreline to the top of bluff. This work would be completed behind a temporary coffer dam in dry, contained conditions and would not cause additional erosion impacts. The Proposed Project would comply with all NPDES permit requirements, including the CGP (AC WQ-1, *Construction General Permit*), which would be implemented by PG&E. The CGP includes implementation of a site-specific SWPPP (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*), which would contain erosion and sediment control plans that would provide guidance for placement of erosion and sediment controls per CGP requirements. To further ensure the Proposed Project would not violate any water quality standards or waste discharge requirements or create substantial additional sources of polluted runoff during and post Phase 2, MMs HWQ-1 and HWQ-2 are recommended, which require a Long-Term Drainage Plan and a Long-Term Erosion and Sediment Control Plan for the final surface conditions following demolition of all decommissioned structures. The Long-Term Erosion and Sediment Control Plan would be included in the Stormwater Management Plan (SWMP). With implementation of the required plans, permits, and MMs HWQ-1 and HWQ-2, impacts would be reduced to a less-than-significant level (Class II).

Post-Decommissioning Operations

New Facility Operations. Erosion and the loss of topsoil at areas of ground disturbance within the Proposed Project would be minimized by provisions, such as sediment basins, silt fences, straw wattles, drainage devices, drainage inlet protection, and appropriate outlet devices, which

would be included in the grading permits required by San Luis Obispo County. Operation at the Project site, including the new GTCC Waste Storage Facility, indoor Firing Range, Security Building, and Storage Buildings including routine or periodic maintenance of facilities would not require any substantial ground disturbance, therefore significant soil erosion would not be triggered or accelerated. No exposed areas subject to erosion would be created or affected by Project operations. Compliance with requirements of the grading permits would result in a less than significant impact (Class III).

Future Actions. Marina operations would be limited to car parking, restrooms, and use of boats and non-motorized vessels, such as kayaks and stand-up paddleboards. Any construction at the site following decommissioning would be required to comply with standard regulatory controls such as a construction-SWPPP to minimize erosion and runoff concerns. MM HWQ-1 and MM HWQ-2 are recommended, which require a Long-Term Drainage Plan and a Long-Term Erosion and Sediment Control Plan for the final surface conditions following demolition of all decommissioned structures. The Long-Term Erosion and Sediment Control Plan would be included in the SWMP.

MM GEO-3 (*Monitoring and Reporting of Potential Subsurface Structure Exposure*) requires an inspection and monitoring plan to ensure that subgrade piping and structures are not exposed by natural erosion or storm conditions, with the specifications for inspection and storm event to be defined in the Bluff Retreat and Erosion Monitoring Plan. The inspection of bluffs at the Discharge Cove and east of the Intake Cove is to be completed every three years and after a major storm event, and must be conducted by a certified engineering geologist approved by the County. An inspection report must also be prepared by a California Certified Engineering Geologist and submitted to the County for review and approval prior to any removal of potentially exposed piping/structures. With implementation of the required plans, permits, and MMs HWQ-1, HWQ-2, and GEO-3, impacts would be reduced to a less-than-significant level (Class II).

Mitigation Measures for Impact GEO-2.

GEO-3 **Monitoring and Reporting of Potential Subsurface Structure Exposure.** At least ninety (90) days prior to completion/County Final signoff of Phase 2 Final Site Restoration grading permits and initiation of the five-year biological monitoring, or, at least 90 days prior to transfer of the property to a third party for site reuse (whichever is first), the Applicant or its designee shall submit to the County a Bluff Retreat and Erosion Monitoring Plan (Plan). The purpose of the Plan is to (1) provide a map of all subsurface structures that remain following Final Site Restoration (Phase 2) at the DCPP site; and (2) establish periodic site and bluff erosion monitoring and reporting at a minimum of every three years and following rainstorm events of 2-inches or more in a 24-hour period. The Plan would facilitate identification, monitoring, and removal of any remaining subsurface features (i.e., building foundations, utility piping and structures, etc.) that could be potentially exposed in the future by natural erosion or natural storm conditions. This monitoring and reporting requirement shall continue in perpetuity and shall follow the property landowner or lessee (as specified in a lease agreement) and shall be recorded in a manner approved by the County prior to any transfer of the lands or structures identified in this permit.

The Bluff Retreat and Site Erosion Monitoring Plan shall include the following at minimum:

- Map and supporting table of all surface areas of the Project Site that may have subsurface foundations, piping, or other remaining facility components, including location, depth, dimension, and volume, that could be exposed over time
- Requirements and criteria for inspection of restoration areas as well as the coastal bluffs from Diablo Cove south to the cove below the radio tower (south of Patton Cove) – Inspections shall be conducted every three years, and after any major storm event (to be defined in the Plan)
- Report content (i.e., text description, figures/tables, photos, and other supporting data) and criteria for making recommendations on removal of piping or other structures
- Where removal is recommended by the Applicant's certified engineering geologist, the County Planning and Building Department and the County Geologist shall consider whether incremental or full removal of exposed features is necessary, and whether the scope requires permitting by the County.

Within 30 days from each inspection, a report shall be submitted to the County for approval, prior to any removal being conducted. The Plan's map depicting areas of required monitoring may be modified and approved by the County where full removal of subsurface piping/structures has been approved and completed. The frequency of required monitoring and reporting may be modified upon approval by the County and based on information gained by monitoring and reporting activities. Future land use and construction permits for new uses on the site shall address remaining subsurface facility components through methods such as capping, removal, and continued monitoring under a revised Plan.

HWQ-1 Prepare and Implement Drainage Plans. See Section 4.11.

HWQ-2 Long-Term Erosion and Sediment Control Plan. See Section 4.11.

Impacts of Mitigation. Implementation of MM GEO-3 (*Monitoring and Reporting of Potential Subsurface Structure Exposure*) may lead to additional impacts associated with future removals of subsurface structures if such removals are triggered. Such removals are considered speculative at this time, and if they occur would happen in a piecemeal fashion. It is anticipated that any such removals would either occur as part of a development project and be assessed as part of that project or would occur much further in the future at a time when construction equipment may be cleaner, and regulations may be stricter. Additionally, such removals may be exempt from CEQA, such as the removal of existing pipelines (State CEQA Guidelines §15282(k)) or removals to prevent an emergency (State CEQA Guidelines §15269(c)). Impacts associated with such removals may include additional air quality and greenhouse gas emissions associated with earth movement, use of construction equipment and trucks; biological resources impacts in areas that may have otherwise been restored under the Proposed Project; potential for exposing and impacting potentially sensitive cultural or tribal cultural resources; potential for soil erosion and associated water quality impacts; and noise associated with off-site trucking. These impacts

would be assessed on a case-by-case basis and the appropriate CEQA documentation completed. Such impacts are anticipated to be substantially less than the alternative requiring full removal of all subsurface structures (see Section 5.3.3, *Full Removal of Onshore Subsurface Structures*).

Impact GEO-3: Destroy unique paleontological resources due to grading and excavation in geologic units of Moderate to High Paleontological Sensitivity (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

As shown on Figure 4.8-1, the DCPP site includes the Terrace deposits (Qt) that has a high sensitivity for paleontological resources (Applied Earthworks, Inc., 2016). The DCPP site also includes the Monterey Formation (Tm and Tml) which has a very high sensitivity for paleontological resources (Applied Earthworks, Inc., 2016). Ground disturbing activities within the geologically sensitive units including the Terrace deposits and Monterey Formation have the potential to damage or destroy paleontological resources. As part of the Proposed Project, PG&E would limit adverse impacts to unknown paleontological resources during Project excavation (AC GEO-1, *Unknown Paleontological Resources*), which would halt or redirect construction if paleontological resources are encountered. PG&E has included worker training as part of the Proposed Project (AC CR-2, *Worker's Environmental Awareness Training*) which includes an onsite monitor and a training module on cultural and paleontological resources for all field personnel prior to the start of construction. MM GEO-4 (*Prepare and Implement Paleontological Resource Monitoring and Mitigation Plan and Worker Environmental Awareness Program*) requires a Paleontology Resources Monitoring and Mitigation Plan (PRMMP) to be prepared and a County-approved qualified paleontologist to provide training to all new workers prior to any new worker beginning work on the Project site. This training includes protocols to follow should material suspected to be a fossil is encountered. With implementation of MM GEO-4, impacts would be reduced to a less-than-significant level (Class II).

Railyards

Proposed infrastructure modifications at the PBR and SMVR-SB sites do not include any planned new structures, grading, or substantial ground disturbance (see Section 2.3.4, *Modifications and Operations at Rail Facilities*). MM GEO-4 (*Prepare and Implement Paleontological Resource Monitoring and Mitigation Plan and Worker Environmental Awareness Program*) requires a qualified paleontologist to provide training to all new workers prior to any new worker beginning work on the PBR and SMVR-SB sites. This training includes protocols to follow should material suspected to be a fossil be encountered. With implementation of MM GEO-4, impacts would be reduced to a less-than-significant level (Class II).

Phase 2

Paleontological resource impacts would be increased in Phase 2, as additional grading and ground disturbance would occur. Phase 2 activities at the DCPP site include contaminant remediation, demolition of remaining utilities and structures, soil grading and landscaping, long-term stormwater management, and continued removal and restoration of the Discharge Structure.

Ground disturbing activities within the geologically sensitive units, including the Terrace deposits and Monterey Formation, have the potential to damage or destroy paleontological resources. As part of the Proposed Project, PG&E would limit adverse impacts to unknown paleontological resources during Project excavation (AC GEO-1, *Unknown Paleontological Resources*), which requires an on-site monitor and would halt or redirect construction if paleontological resources are encountered. PG&E has included worker training as part of the Proposed Project (AC CR-2, *Worker's Environmental Awareness Training*) which includes a training module on cultural and paleontological resources for all field personnel prior to the start of construction.

MM GEO-4 (*Paleontological Resource Monitoring and Mitigation Plan and Worker Environmental Awareness Program*) requires a qualified paleontologist to provide training to all new workers prior to any new worker beginning work on the Project site. This training includes protocols to follow should material suspected to be a fossil is encountered. With implementation of MM GEO-4, impacts would be reduced to a less-than-significant level (Class II).

Post-Decommissioning Operations

New Facility Operations. Operation at the DCPP site would not require any substantial ground disturbance. Therefore, no impacts related to paleontological resources would occur.

Future Actions. The site and facilities would undergo Final Status Surveys to confirm that any residual levels of radionuclides have been removed and or decreased to levels below site-specific levels that equate to the NRC-approved site release criteria. At that time, the Marina could be released for recreational, education, or commercial purposes to be approved under a separate County Land Use and Coastal Development Permit. PG&E would lease the Marina to a third-party operator, who would perform limited site improvements and operate the facility.

Following release of the NRC Part 50 License, PG&E or the lessee Marina operator would submit an application for Marina improvements to include parking lots (upper and lower), public restrooms (upper and lower), paving over the top of the Intake Structure, and installing a pier-mounted boat hoist and articulated stairs.

Construction related to Marina improvements would include grading and ground disturbance within the geologically sensitive Terrace deposits. PG&E would limit adverse impacts to unknown paleontological resources during Project excavation (AC GEO-1, *Unknown Paleontological Resources*), by retaining a qualified County-approved paleontological monitor who would halt or redirect construction if paleontological resources are encountered. PG&E has included worker training as part of the Proposed Project (AC CR-2, *Worker's Environmental Awareness Training*) which includes a training module on cultural and paleontological resources for all field personnel prior to the start of construction.

MM GEO-4 (*Prepare and Implement Paleontological Resource Monitoring and Mitigation Plan and Worker Environmental Awareness Program*) requires a qualified County-approved paleontologist to provide training to all new workers prior to any new worker beginning work on the Project site. This training includes protocols to follow should material suspected to be a fossil is encountered. With implementation of MM GEO-4, impacts would be reduced to a less-than-significant level (Class II).

Mitigation Measures for Impact GEO-3.

GEO-4 Prepare and Implement Paleontological Resource Monitoring and Mitigation Plan and Worker Environmental Awareness Program.

GEO-4.1: At least 90 days prior to issuance of any construction permits related to decommissioning, the applicant shall provide a Paleontological Resource Monitoring and Mitigation Plan (PRMMP) for review and approval by the County. The PRMMP shall include at a minimum:

a. The name and qualifications of the Project Paleontologist and associated site monitor(s). The Project Paleontologist shall be retained by the Applicant or its designee prior to beginning decommissioning activities. They shall have an advanced degree (masters or higher) in geology, paleontology, biology, or related disciplines (exclusive of archaeology). Additionally, they shall have at least 5 years professional experience with paleontological (not including cultural) resources, including the collection, identification, and curation of the resources.

b. A site map of the project area showing geologic locations of paleontological resource potential (very high, high, moderate, etc.), based on the Final Engineering Geology Report; the mapping shall be included on all grading and construction plans and shall updated to reflect identified sensitive areas (or areas confirmed as non-sensitive) at the start of Phase 2.

c. Full-time monitoring will be required during all ground-disturbing activities in the Terrace Deposit and Monterey Formation, which have been determined to have a very high paleontological resource potential.

d. In areas of high sensitivity, monitoring efforts can be reduced or eliminated at specific sites at the discretion of the Project Paleontologist if no fossil resources are encountered after 50 percent of the excavations are completed.

e. Spot-checking or part-time monitoring will be required for all significant ground-disturbing activities at depths greater than 3 feet in previously undisturbed geologic units with a high paleontological resource potential (i.e., Pismo Formation and Quaternary Marine Terrace Deposits).

f. Monitoring will entail the visual inspection of excavated areas, sidewalls, and spoils piles, with photographic documentation as appropriate.

g. Worker Environmental Awareness Training Program (WEAP) shall be developed by the Project Paleontologist based on the PRMMP and may be conducted concurrent with other environmental training (e.g., cultural and natural resources awareness training, safety training, etc.).

h. In the event that a paleontological resource is discovered, the monitor will have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected.

i. The County shall be notified within one week of any significant discovery, and reports shall be provided on monitoring efforts (by permit, where multiple permits are underway) at least biannually.

j. A procedure for fossil preparation, curation, and reporting.

GEO-4.2: Worker Environmental Awareness Program. Prior to and for the duration of any ground disturbance, the Applicant or its designee shall provide Paleontological WEAP training to all new workers prior to any new worker beginning work on the DCPP, PBR, and SMVR-SB sites. The training program shall be developed by the Project Paleontologist and may be presented in the form of a video. A draft of the training program shall be provided to the County of San Luis Obispo Planning and Building Department for review and approval no fewer than 90 days prior to issuance of Decommissioning-related permits or any associated ground disturbance at the DCPP, PBR, or SMVR-SB sites. The training may be conducted concurrent with other environmental training (e.g., biological and cultural resources awareness training, safety training, etc.).

The training shall include, at a minimum:

a. A brief overview by the Project Paleontologist of what Pleistocene fossils look like in general, where they may be encountered during decommissioning;

b. Steps to follow in the event of an unanticipated discovery;

c. Contact information for the County of San Luis Obispo Planning and Building Department, Project Paleontologist;

d. Information that the Project Paleontologist shall have the authority to halt ground disturbing activities in the event material suspected to be a fossil is encountered;

e. Instructions that workers are to halt work on their own in the vicinity of a potential paleontological discovery, shall contact their supervisor and the Project Paleontologist, and that redirection of work shall be determined by the Project Paleontologist;

f. An information brochure that identifies reporting procedures in the event of a discovery;

g. An acknowledgement form signed by each worker indicting that the worker has received the training and will abide by the Project requirements; and

h. A sticker that shall be placed on hard hats indicating that environmental training has been completed.

Impact GEO-4: 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 (Class III: Less than Significant).

Phase 1

DCPP Project Site

The new Security Building located in the East Canyon would include restroom facilities for on-site personnel. Wastewater would be treated and disposed at the site using a septic system and leach field. There is an existing septic system located on the slope between East Canyon area and the lower Diablo Creek terrace, south of the Diablo Creek gauging station which would be upgraded or replaced as necessary as part of the Proposed Project. New or replacement onsite wastewater treatment systems shall be designed and constructed to satisfy all applicable requirements of the County of San Luis Obispo Department of Building and Planning Local Agency Management Program (LAMP) for Onsite Wastewater Treatment Systems (OWTS), such as percolation testing, layout design, and proof of a potable water source. The impact related to having soils incapable of adequately supporting the use of septic tanks would be less than significant (Class III).

Railyards

No septic tanks or alternative wastewater disposal systems would be installed at the railyards. Therefore, there would be no impact related to having soils incapable of adequately supporting the use of septic tanks.

Phase 2

Phase 2 work within DCPP would not require the installation of a septic tank or alternative wastewater disposal system. The upgraded or replaced septic system in the East Canyon area may require routine maintenance during operation. No impacts related to having soils incapable of adequately supporting the use of septic tanks would occur.

Post-Decommissioning Operations

New Facility Operations. New facility operations would not require the installation of a septic tank or alternative wastewater disposal system. The upgraded or replaced septic system in the East Canyon area may require routine maintenance during operation. No impacts related to having soils incapable of adequately supporting the use of septic tanks would occur.

Future Actions. Marina improvements would include restroom facilities for visitors. Sanitary wastewater would be treated and disposed at the site using a septic system and leach field. A new leach field in a disturbed area of the site, such as Parking Lot 48 (which would be removed as part of the Proposed Project), would be constructed. New or replacement onsite wastewater treatment systems shall be designed and constructed to satisfy all applicable requirements of the County of San Luis Obispo LAMP. The impact related to having soils incapable of adequately supporting the use of septic tanks would be less than significant (Class III).

Mitigation Measures for Impact GEO-4. No mitigation measures are required.

Impacts of Mitigation. The abandoned leach field along Hillside Drive would be reused or reconstructed to support the ongoing operations of the Fire Station required per MM PSU-2 (Retain the Diablo Canyon Fire Department and Emergency Facilities). New or replacement onsite wastewater treatment systems shall be designed and constructed to satisfy all applicable requirements of the County of San Luis Obispo LAMP. The impact related to having soils incapable of adequately supporting the use of septic tanks would be less than significant (Class III).

Impact GEO-5: Expose structures, workers, and the public to damage or injury due to coastal hazards, including but not limited to flooding, wave runup, tsunamis, and bluff erosion and instability (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

As discussed in Section 4.8.1.1, the maximum estimated wave height outside of the DCPP Breakwaters was found to be 44.6 feet, and the maximum wave crest elevation inside the Breakwaters was 12.8 feet NAVD88 (PG&E, 2015), including the effects of storm surges. The local threat of tsunami-related damage is primarily confined to areas less than 50 feet above mean sea level (San Luis Obispo, 2016). Therefore, the local threat of coastal hazards at the DCPP site is primarily confined to low-lying coastal areas less than 50 feet above mean sea level. The upper plant area, on top of the cliffs, is all above approximately 85 feet NAVD88, and not at risk from coastal flooding wave runup, or tsunamis. The Discharge Structure extends from the base of the cliffs to approximately 91 feet NAVD88, the Intake Structure and Marina are situated between approximately 20 and 30 feet NAVD88, and the Breakwaters have a maximum crest elevation of approximately 20 feet NAVD88; therefore, these structures are most at risk from coastal flooding wave runup or tsunamis.

While all structures lower than 50 feet above mean sea level are existing and are currently exposed to coastal hazards, Phase 1 includes dismantling the Discharge Structure, which could result in structural changes that could make these areas more susceptible to coastal hazards.

Dismantling the Discharge Structure could make the structure more susceptible to the effects of coastal processes. A circular cell steel sheet pile cofferdam would be constructed around the Discharge Structure prior to demolition and remain in place throughout construction which would offer protection to the structure by isolating the demolition area from the ocean. The cofferdam design requires that the top of cofferdam be approximately 2 feet above elevation at which overtopping is estimated for a 50-year storm event, which would ensure protection from storm generated waves. Concrete plugs and conventional sheet pile walls would likely be required to tie-in the cofferdam with the shore which would further protect the structure. The Discharge Structure would be removed in its entirety back to the water tunnels and the water tunnels would be sealed with a concrete bulkhead to isolate them from ocean processes. After the Discharge Structure has been demolished and while the cofferdam is still in place, the area in which the Discharge Structure was located would be backfilled with layers of different materials, including 1/4-ton and 1-ton quarry rock, gravel, and topsoil (see Figure 2-27). The different

layers would create flexible infill that is able to resist erosion while adapting to the evolving configuration of the surrounding bluff. This approach to backfilling is inherently stable and would maintain the natural profile of the bluff and allow for upland and intertidal restoration (PG&E, 2023a).

Approximately 35 feet of poorly consolidated terrace deposits overlie the more resistant Obispo Formation bedrock as exposed in the bluff. Bluff erosion and landward retreat is controlled by slow wave erosion of the bedrock at the base of the bluff. Bluff retreat rates of the bedrock in Diablo Cove during the period of 1969 to 2004 are estimated to be 0.03 to 0.2 feet per year (0.002 to 0.06 meters per year) (CCC, 2004). The overlying terrace deposits would retreat at comparable rates given that surface water runoff over the top of the slope would not increase after decommissioning with implementation of the post-final site restoration construction Stormwater Management Plan (SWMP). However, eventually a steady state of bluff top erosion would be achieved as controlled by the bedrock erosion rate at the base of the bluff. The natural bedrock and terrace deposits, disturbed by removal of the Discharge Structure, are anticipated to erode and retreat at greater rates than the 1-ton and ¼-ton rock placed in the removal area. Consequently, annual monitoring and reporting of the rock backfill, adjacent bluffs, and bluffs where decommissioning removes structures within 20 feet of the bluff top (bluff top defined as point where the level terrace transitions to a slope descending to the shoreline) should be completed to ensure stability and structural integrity to withstand natural bluff erosion and wave action as required by MM GEO-5 (*Discharge Structure Backfill and Natural Bluff Site Inspection*) and San Luis Obispo County LCP County Code Title 23, Section 23.04.118 (Blufftop Setbacks), Subsection (a)(2) (San Luis Obispo, 2004). The CCC CDP A-3-SLO-04-035 for the existing ISFSI requires PG&E to conduct annual surveys of the shoreline nearest the ISFSI transport road and Soil Disposal Site #2. The first survey was required during the first year of ISFSI construction. PG&E must continue conducting annual surveys through the life of the ISFSI. The survey must be conducted by a licensed Surveyor or Civil Engineer (CCC, 2004). A site stability evaluation report must also be prepared by a California Certified Engineering Geologist and submitted to the County for review and approval, based upon an on-site geologic evaluation that indicates that the bluff setback is adequate to allow for bluff erosion over the 75-year period (CCC, 2004). With implementation of these conditions and MM GEO-5, impacts would be reduced to less than significant (Class II).

While Phase 1 activities would have fewer workers and a lower level of activity compared to existing DCPP operations overall, decommissioning activities (i.e., decontamination, dismantlement) at the Discharge Structure have the potential to put more workers within the coastal zone where they could be exposed to coastal hazards, particularly during construction and removal of the cofferdam. Once in place, the cofferdam would offer protection to workers from flooding and waves. In addition, the DCPP facility has safety protocols in place that would continue to be followed throughout decommissioning activities, minimizing accidents from occurring. The occurrence of damaging tsunamis is low; NOAA also maintains an active tsunami monitoring system that provides early warning and allow workers time to evacuate low lying areas for higher ground. Therefore, impacts to workers would be less than significant (Class III).

Due to the nature of activities on the site and NRC-required perimeter controls, the DCPP site would not be open to the public during Phase 1 and Phase 2, until the NRC Part 50 facility

operating licenses are terminated. Therefore, the Proposed Project would not expose the public to damage or injury due to coastal hazards and there would be no impact.

Railyards

The PBR site is partially within the coastal zone but is elevated above sea level and located approximately 0.6 miles from the shoreline, which would put it outside the area at risk from wave run up or coastal flooding. The California Geological Survey Tsunami Hazard Area Map for San Luis Obispo County (State of California, 2021) shows the Tsunami Hazard Area for the region extending up Pismo Creek from the ocean but terminates just before the PBR site; therefore, the site is beyond the area where tsunamis would likely affect the project area. There are no coastal bluffs in the immediate project area. The SMVR-SB site is located outside of coastal zone and therefore would not impact coastal processes. Therefore, there would be no impact to structures, workers, and the public due to coastal hazards, including but not limited to flooding, wave runup, tsunamis, and bluff erosion.

Phase 2

Phase 2 work within the low-lying coastal area includes closure of the Intake Structure, construction of a bluff top road, continuation of the removal and restoration of the Discharge Structure area, and sitewide restoration activities. Similar to Phase 1, construction in these areas may expose structures and workers to coastal hazards. The blufftop road segment is to be constructed to connect Shore Cliff Road with North Ranch Road/Pecho Valley Road. The road would be established in front of the existing Power Block area and traverse over Diablo Creek via an existing culverted road. The blufftop road segment would be located above coastal water impact areas, including beyond the tsunami hazard level, and far enough back from the cliff edges to not be exposed to coastal hazards (see Section 4.8.1.3 under *Littoral Processes*; cliff retreat is estimated to be less than 5 meters for a 75-year period). The existing culvert crossing in Diablo Creek is above tsunami impact area as well. There would be no impact.

Work in the area of the Intake Structure would occur in areas protected by the Breakwaters, which provides protection from wave run up and flooding. In addition, safety protocols and tsunami warning system would reduce the potential for impacts. The bulkheads would be located entirely within the water, below low tide and therefore designed to withstand coastal processes. Therefore, impacts would be less than significant (Class III).

The openings of the Intake Structure would be sealed with concrete bulkheads, which would be located entirely within the water, below low tide and therefore designed to withstand coastal processes. The top of the Intake Structure would be cleared to support reuse by a third party, under separate County entitlement (see Future Actions discussion below). While the process of sealing the Intake Structure could make the structure more susceptible to the effects of coastal processes, once sealed, the Intake Structure would be protected from the effects of coastal processes (Class III).

Removal and restoration of the Discharge Structure area would continue into Phase 2. The cofferdam constructed during Phase 1 would continue to provide protection to the bluff until the backfill is complete. Like in Phase 1, the cofferdam would offer protection to workers from flooding and waves. In addition, the DCPP facility has safety protocols in place that would

continue to be followed throughout decommissioning activities, minimizing accidents from occurring. The occurrence of damaging tsunamis is low; NOAA also maintains an active tsunami monitoring system that provides early warning and allow workers time to evacuate low lying areas for higher ground. Therefore, impacts to workers would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. All new infrastructure is outside the coastal zone. The new GTCC Waste Storage Facility is outside of the coastal zone (see Figure 1-2), therefore there would be no impact. The Security Building and Indoor Firing Range, and Storage Buildings are located over a quarter mile inland from the coastal bluffs, above an elevation of 300 feet NAVD88, putting them outside the area at risk from wave runup or coastal flooding. The California Geological Survey Tsunami Hazard Area Map for San Luis Obispo County (State of California, 2021) shows the Tsunami Hazard Area ending at the cliffs and only impacting the Intake Structure area. Therefore, no impact to structures, workers, and the public due to coastal hazards would occur, including but not limited to flooding, wave runup, tsunamis, and bluff erosion.

Future Actions. The site and facilities would undergo Final Status Surveys to confirm that any residual levels of radionuclides have been removed and or decreased to levels below site-specific levels that equate to the NRC-approved site release criteria. At that time, the Marina could be released for recreational, education, or commercial purposes. PG&E would lease the Marina to a third-party operator, who would perform limited site improvements and operate the facility to be approved under a separate County Land Use and Coastal Development Permit.

Following release of the NRC Part 50 facility operating licenses, PG&E or the lessee Marina operator would submit an application for Marina improvements. The Marina improvements described in the Project Description would include parking lots (upper and lower), public restrooms, and installing a pier-mounted boat hoist and articulated stairs. The stairs would extend to the water and provide a small platform at the water level. All these structures would be new, and except for the upper parking and upper public restrooms, could be exposed to coastal hazards, including but not limited to flooding, wave runup, and tsunamis. The new stairs would be steel and would be constructed to withstand weather and seawater. Structural risks would be addressed via compliance with design standards and codes to limit the risks from coastal hazards.

Construction related to Marina improvements would expose workers to coastal processes, and operation of the Marina would provide a new source of public access to the project site, which would increase the risk of injury to the public from flooding, wave runup, tsunamis. However, the Breakwaters would remain which would provide protection from waves and coastal flooding. In addition, the risk of tsunamis is low, and a tsunami warning system would provide an early alert the public, allowing them to avoid the area or seek higher ground. Therefore, impacts would be less than significant (Class III).

Mitigation Measures for Impact GEO-5.

GEO-5 **Discharge Structure Backfill and Natural Bluff Site Inspection.** The Applicant or its designee shall complete a site inspection one year after placement of the Discharge Structure backfill. The inspection shall be completed by a California Certified Engineer-

ing Geologist and include the entire area of Discharge Structure backfill and the adjacent natural bluffs. The inspection shall note settlement, tension cracks at top of bluff, loss of material, and change of slope, if any. The Applicant or its designee shall submit a report of findings to the County for review within 45 days following completion of each annual inspection, documenting the overall performance of the backfill and natural bluffs and shall provide recommendations for repair or replenishment of the backfill, as necessary. Annual inspections shall continue for a period of five years. The fifth annual report shall present conclusions and recommendations for additional monitoring if necessary. If repairs are recommended by the Applicant's certified engineering geologist, the County Geologist shall review the scope of repairs and approve within 30 days.

Impacts of Mitigation. Implementation of MM GEO-5 (*Discharge Structure Backfill and Natural Bluff Site Inspection*) may lead to additional impacts associated with future repairs of the Discharge Structure backfill, if such repairs are identified. Such repairs are considered speculative at this time, and if they occur would happen in a piecemeal fashion. It is anticipated that any such repairs would occur much further in the future at a time when construction equipment may be cleaner, and regulations may be stricter. Additionally, such repairs may be exempt from CEQA, such as repairs to prevent an emergency (State CEQA Guidelines §15269(c)), restoration of deteriorated or damaged structures (State CEQA Guidelines §15301(d)), or filling of earth into previously excavated land with material compatible with the natural features of the site (State CEQA Guidelines §15304(c)). Impacts associated with such repairs may include additional air quality and greenhouse gas emissions associated with earth movement, use of construction equipment and trucks; biological resources impacts in areas that may have otherwise been restored under the Proposed Project; and potential for soil erosion and associated water quality impacts. These impacts would be assessed on a case-by-case basis and the appropriate CEQA documentation completed, as needed.

Impact GEO-6: Impair nearshore sediment properties, characteristics, or processes during and after decontamination and dismantlement activities (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

Because the DCPP site includes built structures in the coastal zone (see Figure 1-2), decommissioning activities (i.e., decontamination, dismantlement) have the potential to impact nearshore sediment properties, characteristics, or processes. The upland portions of the DCPP site, including the structures northeast of Diablo Canyon Road/Diablo Ocean Drive, are set back from the shoreline and cliffs, all above approximately 85 feet NAVD88. Therefore, decontamination and dismantlement of the upland portions would have no effect on nearshore sediment properties, characteristics, or processes as the structures are outside of the immediate coastal area and do not affect coastal processes.

The Discharge Structure, Intake Structure, Intake Cove/Marina, and Breakwaters are all located within, or directly adjacent to, the shoreline and coastal waters. Construction in these areas may

affect nearshore coastal processes. Under the Proposed Project, the Intake Structure, Marina, and Breakwaters would remain in place. The Intake Structure opening would be closed by a concrete bulkhead in Phase 2.

The Discharge Structure including the tunnel extending 30 feet into the bluff, would be demolished and removed in Phase 1, which would create a void in the coastal bluff. The entire void would be backfilled with layers of different materials, including 1-ton and ¼-ton quarry rock, gravel, and topsoil (see Figure 2-27), with restoration continuing into Phase 2. Rocks would be placed within the void from either a land-based crane or barge-mounted crane using rock tongs specifically designed to place individual or small groups of boulders. In addition, quarry rocks would be placed on either side of the Discharge Structure within the intertidal zone to augment the rocky intertidal habitat. This design would create a hardened area of the bluff which would protect against future increased erosion. The different layers would create flexible infill that is able to resist erosion while adapting to the evolving configuration of the surrounding bluff. This approach to backfilling is inherently stable and would maintain the natural profile of the bluff and allow for upland and intertidal restoration (PG&E, 2023a).

Prior to construction, a cofferdam would be constructed around the Discharge Structure and remain in place for the entirety of the demolition and rock placement, which would prevent sediment from entering the littoral system. There is expected to be some discharge of water from inside the cofferdam during demolition, such as through seams between the sheet piles or seepage captured on the inside of the cofferdam. PG&E developed a Turbidity Monitoring Plan for decommissioning activities associated with the demolition and removal of the Discharge Structure and restoration activities, and addresses barging activities in the Intake Cove during decommissioning (PG&E, 2022b). The Turbidity Monitoring Plan contains recommendations to avoid and minimize impacts to water quality associated with the demolition of the Discharge Structures and restoration of this area following removal, including the following:

- Sediment removal prior to placement of cofferdam should utilize a water lift to remove any sand or sediment and reduce air entrainment and sediment dispersion.
- Prior to installation of the sheet pile, any discharge of excavated material (water and sand) should occur within 10 feet of the terminus of the discharge pipe location and within 3 feet of the seafloor.
- The discharge hose may need to be periodically repositioned to avoid accumulation of excavated material in a particular location.
- If turbidity levels exceed or approach Ocean Plan limits during disposal, a shroud should be fabricated to fit on the end of the discharge pipe to reduce sediment plume dispersion.

The plan describes protocols and methods to be implemented to minimize impacts to water quality, specifically turbidity, in accordance with standards in the California Ocean Plan. This plan also helps to minimize the effects of erosion during the removal of the Discharge Structure. As discussed in Section 4.4, *Biological Resources – Marine*, under impact MBIO-1, MM MBIO-3 (*Water Quality Monitoring Plan*) is recommended, which requires PG&E to update the Turbidity Monitoring Plan to include permit requirements for monitoring for turbidity and other water quality parameters such as dissolved oxygen to ensure that Project-related activities are not

contributing to conditions that could degrade sensitive marine habitats. If water quality monitoring detected persistent and elevated levels of turbidity, Best Management Practices (BMPs) would be implemented to avoid turbidity impacts to receiving waters and adjacent habitats. Additionally, MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*) requires PG&E to develop a plan to avoid impacts to marine biological resources, receiving waters, sensitive habitats, and potentially protected species from all aspects associated with cofferdam construction and removal. The plan shall include tasks such as a pre-construction habitat and biological survey, an approach to relocate marine life, and dewatering controls to minimize turbidity, and inspection schedule to ensure compliance. With implementation of these measures, impacts would be reduced to a less-than-significant level (Class II).

While the Intake Structure would remain in place, operations of both the Intake and Discharge Structures would cease in Phase 1. Local ocean water circulation caused by the operations at the Intake and Discharge Structures would be altered during the period of redirected flow and once they are no longer operable, and has the potential to change very localized sediment movement. However, natural sediment flow within the Intake Cove is already potentially impeded by the Breakwaters, which would remain in place under the Proposed Project. Within the Discharge Cove, with cessation of Discharge Structure flows, circulation would revert to natural patterns and sediment flow would no longer be impeded in this area. The impact would be less than significant (Class III).

Railyards

The PBR site is partially within the coastal zone but is located approximately 0.6 miles from the existing shoreline, and therefore, there would be no effect to nearshore sediment processes. The SMVR-SB site is located outside of the coastal zone and therefore would not impact coastal processes. There would be no impact.

Phase 2

Structures in and directly adjacent to coastal waters and the shoreline potentially impede natural sediment flow. As described in Impact GEO-5, work within the low-lying coastal area includes sealing the Intake Structure, continued removal and restoration of the Discharge Structure area, and construction of a bluff top road. As the bluff top road is set back from the cliff tops, impacts associated with cliff erosion are not expected; therefore, there would be no impacts to local sediment processes.

The Intake Structure would be sealed with concrete bulkheads. The bulkheads would be placed in the water and could potentially impede sediment flow. However, the bulkheads would be within the area protected by the Breakwaters which already impede natural sediment flow.

The continued removal and restoration of the Discharge Structure area during Phase 2 would have the same impacts as outlined for Phase 1 (above). With implementation of the outlined measures, impacts would be reduced to a less-than-significant level (Class II).

Post-Decommissioning Operations

New Facility Operations. All new infrastructure is outside the coastal zone. The new GTCC Waste Storage Facility is outside of the Coastal Zone (see Figure 1-2), therefore there would be no

impact. The Security Building, Indoor Firing Range, and Storage Buildings are located over a quarter mile inland from the coastal bluffs, and therefore, would not be affected by nearshore sediment processes. There would be no impact.

Future Actions. As part of the Marina improvements for re-use (to be authorized under separate County land use permits), the top of the closed Intake Structure would be cleared and repurposed with parking on top, and a boat hoist and stairs/platform installed to provide access to the water. All these structures would be located on land or above the water (the platform may be submerged during extreme high tides during coastal storms but would not affect sediment flow). As such, Phase 2 impacts on nearshore sediment would be less than significant (Class III).

Marina operations would likely include overnight anchoring of boats, which could create localized pockets of scour erosion on the seafloor. The effects are expected to be minor, given the small area. As discussed in Section 4.4, *Biological Resources – Marine*, under Impact MBIO-1, MM MBIO-9 (*Mooring Placement Habitat Survey*), which prohibits all non-emergency anchoring and that up to five mooring buoys be installed in the Marina prior to commencing overnight use by private vessels. It also requires a pre-construction habitat survey be conducted prior to mooring installation to delineate sensitive habitats such as eelgrass beds and rocky reefs. Moorings would be installed and include a buffer zone to avoid impacts to these habitats from the mooring anchor, as well as potential chain scour. Inclusion of the requirements specified in MM MBIO-9 in the Land Use and Coastal Development Permit for marina operations would reduce impacts on nearshore sediment to a less-than-significant level (Class II).

Mitigation Measures for Impact GEO-6. See Section 4.4 for full text of measures.

MBIO-3 Water Quality Monitoring Plan

MBIO-4 Cofferdam Installation and Dewatering Plan

MBIO-9 Mooring Placement Habitat Survey

Impact GEO-7: Impair coastal wave, current, or circulation patterns during and after decontamination and dismantlement activities (Class III: Less than Significant).

Phase 1

DCPP Project Site

As described in Impacts GEO-4 and GEO-5, portions of the DCPP site, including the structures east of Diablo Canyon Road/Diablo Ocean Drive, are set back from the shoreline and cliffs, with no direct connection to the coastal waters. Therefore, decontamination and dismantlement of structures and facilities within the upper DCPP site would have no effect on coastal hydrodynamics outside of the immediate coastal area and do not affect coastal processes. There would be no impact.

The Discharge Structure, Intake Structure, Intake Cove/Marina, and Breakwaters are all located along the coast and may affect nearshore processes. As noted, the Intake Structure, Marina, and Breakwaters are not being demolished and would remain under the Proposed Project. These existing structures are currently affecting natural coastal processes (e.g., by reducing waves and

altering natural circulation patterns) and the structures would not be changed by the Proposed Project. While the Discharge Structure is to be removed, the void left in the cliff would be backfilled with layers of different materials, including 1-ton and ¼-ton quarry rock, gravel, and topsoil that would maintain the natural profile of the bluff. Therefore, removal of the Discharge Structure would not alter the local coastal wave, current, or circulation patterns. There would be no impact.

Operations of both the Intake and Discharge Structures would cease in Phase 1. Local ocean water circulation caused by the operations at the Intake and Discharge Structures would be altered once they are no longer operable. However, natural circulation within the Intake Cove is already to some extent impeded by the Breakwaters, which would remain in place under the Proposed Project. Within the Discharge Cove, with cessation of Discharge Structure flows, circulation would revert to natural patterns. This impact would be less than significant (Class III).

Railyards

As described in Impact GEO-5, the PBR site is partially within the coastal zone but is located approximately 0.6 miles from the existing shoreline, and would not impact the coastal waves, currents, or circulation patterns. The SMVR-SB site is located outside of the coastal zone and therefore would not impact coastal processes. There would be no impact.

Phase 2

Work within the low-lying coastal area of the DCPP site includes sealing the Intake Structure, continued removal and restoration of the Discharge Structure, and construction of a bluff top road. As the bluff top road would be set back from the cliff tops, there would be no impacts to coastal wave, current, or circulation patterns. Existing Marina structures would remain in place, except for the stairs that would extend to the water with a small platform. The stairs and platform would not affect coastal processes; they are relatively small and would not extend far into the water column. The Intake Structure opening would be closed with concrete bulkheads. The Intake Structure bulkheads would be within the area protected by the Breakwaters, which already to some extent limits circulation and wave action. The continued removal and restoration of the bluff in the Discharge Structure area would happen within the cofferdam, which could modify wave action and circulation patterns slightly. Once restoration is complete, the cofferdam would be removed and the bluff would maintain a similar shoreline profile, and therefore would not impact the coastal wave, current, or circulation patterns beyond the changes caused in Phase 1 due to the ceasing of operations. The potential impact would therefore be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. All new infrastructure is outside the coastal zone. The new GTCC Waste Storage Facility is outside of the Coastal Zone (see Figure 1-2), therefore there would be no impact. The Security Building, Indoor Firing Range, and Storage Buildings are located over a quarter mile inland from the coastal bluffs, and therefore, would not alter the local coastal wave, current, or circulation patterns. There would be no impact.

Future Actions. Future operation of the Marina following release of the NRC Part 50 facility operating licenses would likely include overnight anchoring of boats within the Intake Cove/ Marina, which is an area protected by the Breakwaters. The effect on coastal wave, current, or circulation patterns would be less than significant (Class III).

Mitigation Measures for Impact GEO-7. No mitigation measures are required.

Impact GEO-8: Increase the effects of coastal flooding or erosion associated with sea level rise during and after decontamination and dismantlement activities (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

SLR has the potential to affect erosion rates along the shoreline. The CCC provides standard SLR projections specific to California coastal regions. While the CCC *Sea Level Rise Policy Guidance* (CCC, 2018) is advisory, the CCC encourages projects to be consistent with the guidance to ensure that projects consider SLR in planning, design, and engineering throughout the life of the projects and that alternatives that minimize risks to the projects and minimize risks to coastal resources are pursued. In addition, the CCC bases their SLR projections on the "Best Available SLR Science" and establishes one set of SLR projections for consistent planning.

As discussed previously and further in Section 7.1, *Climate Change and Sea-Level Rise*, portions of the DCPP site, including the structures east of Diablo Canyon Road/Diablo Ocean Drive, are set back from the shoreline and cliffs, with no direct connection to the coastal waters. While the upland area of the DCPP site is unlikely to be impacted by SLR, the Discharge Structure, Intake Structure, Intake Cove/Marina, and Breakwaters are located along the coast and may be affected by SLR. As noted, the Intake Structure, Marina, and Breakwaters would not be demolished and would remain in place. The Intake Structure, Marina and associated infrastructure and road elevations are approximately 20 to 25 feet North American Vertical Datum of 1988 (NAVD88). The elevation of the Breakwaters is approximately 18 to 20 feet NAVD88. Given a local mean higher high water (MHHW) of approximately 5.3 feet NAVD88, and a 0.5 percent probability of SLR exceeding 6.7 feet by 2100, the resulting 2100 MHHW would be approximately 12 feet NAVD88, which is below the pier, roadway, and crest elevations of the Breakwaters. However, with SLR and the smaller freeboard, there is a greater chance of waves overtopping the Breakwaters, resulting in the Breakwaters being less effective, and larger waves forming within the Intake Cove. Such waves could lead to more localized effects of coastal processes, exposing the Intake Structure and Marina to greater effects from erosion. However, the hardened shoreline and natural rocky shoreline directly around these structures would reduce the effects of erosion on the structures themselves. This impact would be less than significant (Class III).

In addition to direct effects from flooding, SLR may increase the speed of cliff and shoreline erosion. As discussed in Section 4.8.1.3, under *Littoral Processes*, the cliffs in the area of the DCPP consists of resistant headlands and sea stacks. The sea cliffs range from 50 degrees to vertical and consist of rock layers, including resistant zeolitized tuff (hard rock made from compressed volcanic ash) and marine sandstone, siltstone, and dolomite. Sea cliff erosion (and associated

shoreline retreat) of the bedrock shoreline in the DCPP area is strongly controlled by the wave erosion process, and coves and pocket beaches have formed where waves have eroded the softer shale and siltstone rock, leaving resistant rock buttresses and headlands.

As further discussed in Section 4.8.1, under *Littoral Processes*, based on geological processes alone, a maximum sea cliff retreat over the next 75-year period is anticipated to average 3 meters (10 feet) along the cliffs at the DCPP site. The maximum retreat will be localized along the weaker rock beds and form narrow slots and gullies in the sea cliff on the order of 1 to 5 meters wide, while other areas will experience lesser magnitudes of retreat. SLR has the potential to exacerbate erosion in the weaker areas and accelerate retreat in all areas. As most of the DCPP site and associated structures are set back from the cliffs and would be demolished as part of the Proposed Project, the areas at most risk are the Discharge Structure, Intake Structure, Marina, and Breakwaters located in the immediate coastal area. The Intake Structure is protected by a seawall and the next closest infrastructure is Diablo Canyon Road/Diablo Ocean Drive which is set back on average 60 feet from the cliffs and bluff edge. Assuming the 10 feet of future erosion along the cliffs, the road would continue to be a reasonable distance from the edge. Therefore, SLR-exacerbated erosion of the cliffs is not expected to affect the uplands structures, Intake Structure, or related infrastructure. Removing the Discharge Structure may exacerbate retreat due to SLR in the immediate area by removing a hardened structure that provides support for the cliff immediately behind the structure. However, this area would be backfilled in a manner which would be protective against bluff erosion and minimize potential for impacts. The area in which the Discharge Structure was located would be backfilled with layers of different materials, including 1/4-ton and 1-ton quarry rock, gravel, and topsoil (see Figure 2-27). The different layers would create flexible infill that is able to resist erosion while adapting to the evolving configuration of the surrounding bluff (PG&E, 2023a). As described for Impact GEO-5, the natural bedrock and terrace deposits, disturbed by removal of the Discharge Structure, are anticipated to erode and retreat at greater rates than the 1-ton and ¼-ton rock placed in the removal area. Consequently, annual monitoring and reporting of the rock backfill, adjacent bluffs, and bluffs where decommissioning removes structures within 20 feet of the bluff top (bluff top defined as point where the level terrace transitions to a slope descending to the shoreline) should be completed to ensure stability and structural integrity to withstand natural bluff erosion and wave action as required by MM GEO-5 (*Discharge Structure Backfill and Natural Bluff Site Inspection*). With MM GEO-5 this impact would be reduced to less than significant (Class II).

Railyards

As described in Impact GEO-5, the PBR site is partially within the coastal zone but is located approximately 0.6 miles from the existing shoreline and would not be affected by SLR. The SMVR-SB site is located outside of the coastal zone and therefore would not impact coastal flooding impacts. There would be no impact.

Phase 2

As described previously, work within the coastal zone for Phase 2 includes constructing a bluff top road and closing the Intake Structure. As the bluff top road and the upper portion of the Marina development are beyond the coastal waters and beyond the expected 75-year erosion rates, there would be no impact to SLR effects.

Work in the lower areas of the Marina and at the Intake Structure are potentially within the influence of future SLR flood levels and waves. The openings of the Intake Structure would be sealed, and the top cleared. The existing dock would remain in place. As discussed under the Phase 1 impacts, the potential for greater future waves could potentially increase erosion at the edges of these hardened structures. As noted above, the elevation of the Breakwaters is approximately 18 to 20 feet NAVD88. Given a local MHHW of approximately 5.3 feet NAVD88, and a 0.5 percent probability of SLR exceeding 6.7 feet by 2100, the resulting 2100 MHHW would be approximately 12 feet NAVD88, which is below the crest elevations of the Breakwaters. However, with SLR and the smaller freeboard, there is a greater chance of waves overtopping the Breakwaters, resulting in the Breakwaters being less effective, and larger waves forming within the Intake Cove, which could affect Marina structures, especially the existing dock. While larger waves could form in the cove, the Breakwater would continue to provide sufficient protection from damaging waves. In addition, the articulated stairs would be steel and be constructed to withstand weather and seawater. Impacts would be less than significant (Class III).

Similar to Phase 1, as the removal and restoration of the Discharge Structure area continues into Phase 2, the removal of the Discharge Structure may exacerbate shoreline retreat due to SLR in the immediate area by removing a hardened structure that provides support for the cliff immediately behind the structure. However, as discussed above, the area would be backfilled in a manner which would be protective against bluff erosion. This impact would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. All new infrastructure is outside the coastal zone. The new GTCC Waste Storage Facility is outside of the Coastal Zone (see Figure 1-2), therefore there would be no impact. The Security Building, Indoor Firing Range, and Storage Buildings are located over a quarter mile inland from the coastal bluffs, and therefore, would not increase coastal hazards due to SLR. There would be no impact.

Future Actions. Permit application for operation of the Marina would likely include overnight anchoring of boats within the Intake Cove, which would have no impact on coastal flooding or erosion associated with sea level rise.

Mitigation Measures for Impact GEO-8.

GEO-5 Discharge Structure Backfill and Natural Bluff Site Inspection

4.8.5 Cumulative Impact Analysis

4.8.5.1 Geology and Soils

Geographic Extent Context

Geologic and soils impacts, including seismic hazards are typically site-specific and therefore limited to the Proposed Project sites (DCPP, PBR, and SMVR-SB). The impacts of each past, present, and reasonably foreseeable project would be specific to the respective site and its users and would not be in common with or contribute to (or shared with, in an additive sense) the impacts on other sites. In addition, development of each site would be subject to site development and

construction guidelines and standards (local, State, and federal) that are designed to protect public safety. In order to be cumulatively considerable, adverse geologic conditions would have to occur at the same time and in the same location and under the same or similar conditions of the Proposed Project. As discussed in Section 3.3.2, *Relevant Cumulative Projects*, only one project at the DCPP site is planned that has the potential to result in cumulative geology and soils impacts in combination with the Proposed Project: Orano System ISFSI Modifications (#1).

For paleontological resources, the cumulative study area is the geographical area of the County of San Luis Obispo, which is the geographical area covered by the County's General Plan, including all goals and policies therein. As listed in Table 3-1, cumulative projects in San Luis Obispo County that are considered for potential cumulative impacts related to paleontology include:

Diablo Canyon Power Plant

- Orano System ISFISI Modifications (#1)
- Communications Facility (#2)
- Avila Beach Drive at Highway 101 Interchange (#3)
- Flying Flags Campground (#4)
- Bob Jones Trail Construction (#5)
- Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6)

Pismo Beach Railyard

- Signal at Bello and Price Canyon Road (#7)
- U.S. 101 Pismo Congestion Relief Project (#8)
- Public Safety Center (#9)
- Bello Road Paving (#10)
- Price Street Sidewalk Pavers (#11)
- Realign Frady Lane (#12)
- Storm Drain on Wadsworth from Bello to Judkins Middle School (#13)

Additional future development projects in the County, which are not included in Table 3-1 but are reasonably foreseeable pending development proposals consistent with the County's General Plan, could also include excavation that could affect paleontological resources. The cumulative effect of the Proposed Project is the loss of these resources. The Proposed Project, in conjunction with other development in the County, has the potential to cumulatively impact paleontological resources; however, it should be noted that each development proposal received by the County that requires discretionary approval would be required to undergo environmental review pursuant to CEQA. Due to existing laws and regulations in place to prevent significant impact to paleontological resources, the potential incremental effect of the Proposed Project would not be cumulatively considerable.

Cumulative Impact Analysis

Phase 1

The Proposed Project would not create new hazards or exacerbate existing seismic hazards. The Proposed Project would not exacerbate the likelihood or severity of fault rupture impacts during a seismic event, and impacts would not be cumulatively considerable.

Large earthquakes on regional faults could result in strong seismically induced ground shaking and slope failures, and liquefaction in the general Project area; however, the Project impacts would be less than significant with implementation of MM GEO-1 (*Geologic Hazard Assessment and Geotechnical Investigation*). The Proposed Project would not exacerbate or introduce new seismic impacts such as seismically induced ground shaking and slope failures, and liquefaction related phenomena, as MM GEO-1 would require a Final Engineering Geology Report, Project-specific geotechnical investigation, a geologic hazard assessment, and site-specific design-level recommendations to evaluate and address geologic and seismic hazards, landslides, slope stability, liquefaction, and seismic settlement. Therefore, impacts would not be cumulatively considerable.

Unsuitable soils such as expansive and corrosive soils occur within the Project area; however, the Project impacts related to unsuitable soils would be less than significant with implementation of MM GEO-1 (*Geologic Hazard Assessment and Geotechnical Investigation*). Therefore, impacts related to unsuitable soils would not be cumulatively considerable.

PG&E has proposed the Orano System ISFSI Modifications (#1), a new dry cask storage system for the long-term storage of spent nuclear fuel at the existing ISFSI. Modifications would include placement of precast horizontal storage modules (HSMs) on top of the existing ISFSI pad. Per the County's 2004 ISFSI EIR, the structural design of the facility would incorporate the design earthquake (Stantec, 2022 – Table 1, MM GR-5). Additionally, portions of Shore Cliff Road, which would be used to transport SNF and the new Orano System components, was previously identified (as part of the analysis of the Holtec ISFSI) to be near the mapped Patton Cove landslide area (Stantec, 2022). Geologic monitoring systems, including slope inclinometers or time-domain reflectometry, were installed and monitored during and after construction of the existing Holtec ISFSI to ensure the stability of this route (Stantec, 2022). As such, impacts related to seismic shaking have been reduced to a less-than-significant level and are not cumulatively considerable.

Potential erosion related to excavation and grading for the Proposed Project would be limited to areas of ground disturbance that are underlain by soils with moderate to high erosion potential. The Proposed Project would comply with all NPDES permit requirements, including the CGP (AC WQ-1, *Construction General Permit*), which would be implemented by PG&E. The CGP includes implementation of a site-specific SWPPP (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*), which would contain erosion and sediment control plans that would provide guidance for placement of erosion and sediment controls per CGP requirements. Also, provisions for Erosion and Sediment Control required in every grading permit issued for the DCPP project by San Luis Obispo County would further reduce this impact. The potential for this impact to combine with similar effects of other projects would only occur if other projects were implemented in the same area at the same time as the Proposed Project. However, construction of the Proposed Project would preclude other projects from being implemented concurrently in the same location. Therefore, Proposed Project impacts would not have the potential to combine with similar effects from other projects and would not be cumulatively considerable.

As part of the Proposed Project, PG&E would limit adverse impacts to unknown paleontological resources during Project excavation (AC GEO-1, *Unknown Paleontological Resources*), which would halt or redirect construction if paleontological resources are encountered. PG&E has included worker training as part of the Proposed Project (AC CR-2, *Worker's Environmental*

Awareness Training) which includes an onsite monitor and a training module on cultural and paleontological resources for all field personnel prior to the start of construction. MM GEO-4 (*Prepare and Implement Paleontological Resource Monitoring and Mitigation Plan and Worker Environmental Awareness Program*) requires a qualified County-approved paleontologist to provide training to all new workers prior to any new worker beginning work on the Project site. This training includes protocols to follow should material suspected to be a fossil is encountered. With implementation of MM GEO-4, impacts would be reduced to a less-than-significant level and would not be cumulatively considerable.

Phase 2

Phase 2 geology and soils impacts are the same as Phase 1 and are not cumulatively considerable. The remaining demolition, site grading, and final site restoration planned for Phase 2 would have the same soil erosion, unsuitable soil, ground shaking, slope stability, fault rupture, and paleontological impacts which are project-specific and are not cumulatively considerable. Potential erosion related to excavation and grading for the Proposed Project would be limited to areas of ground disturbance that are underlain by soils with moderate to high erosion potential. The Proposed Project would comply with all NPDES permit requirements, including the CGP (AC WQ-1, Construction General Permit), which would be implemented by PG&E. The CGP includes implementation of a site-specific SWPPP (AC BIO-3, Site-Specific Stormwater Pollution Prevention Plan), which would contain erosion and sediment control plans that would provide guidance for placement of erosion and sediment controls per CGP requirements. Also, provisions for Erosion and Sediment Control required in every grading permit issued for the DCPP project by San Luis Obispo County would further reduce this impact. Phase 2 includes the demolition and backfill of the Discharge Structure. The potential for impact related to strong earthquake-induced ground shaking, seismically induced liquefaction phenomena, expansive and corrosive soils, and coastal processes at the Discharge Structure backfill, would be less than significant with implementation of MM GEO-1 (Class II).

Post-Decommissioning Operations

New Facility Operations. New Facility Operations would result in less than significant impacts related to surface fault rupture, strong earthquake-induced ground shaking, seismically induced liquefaction phenomena, and expansive and corrosive soils. Operation at the Project site, including routine or periodic maintenance of facilities, would not require any substantial ground disturbance, therefore significant soil erosion would not be triggered or accelerated. Compliance with requirements of the grading permits would result in a less than significant impact related to erosion. Additionally, no impacts related to paleontological resources would occur. Impacts to geology and soils would therefore be project-specific and not cumulatively considerable.

Future Actions. The limited site improvement planned for the Marina would have the same impact related to surface fault rupture, strong earthquake-induced ground shaking, seismically induced liquefaction phenomena, and expansive and corrosive soils at the DCPP, which would be less than significant.

Any construction at the site following decommissioning would be required to comply with standard regulatory controls such as a construction-SWPPP to minimize erosion and runoff concerns.

MMs HWQ-1 and HWQ-2 are recommended, which requires a Long-Term Drainage Plan and a Long-Term Erosion and Sediment Control Plan for the final surface conditions following demolition of all decommissioned structures. The Long-Term Erosion and Sediment Control Plan would be included in the SWMP. An inspection of bluffs at the Discharge Cove and east of the Intake Cove should be completed every three years and after a major storm event to ensure that piping/structures are not exposed by natural erosion or natural storm conditions as required by MM GEO-3 (*Monitoring and Reporting of Potential Subsurface Structure Exposure*). The inspection must be conducted by a certified engineering geologist and approved by the County. An inspection report must also be prepared by a California Certified Engineering Geologist and submitted to the County for review and approval prior to any removal of potentially exposed piping/ structures. With implementation of these conditions and MM GEO-3, impacts would be reduced to a less-than-significant level (Class II). With implementation of the required plans, permits, and MMs HWQ-1, HWQ-2, and GEO-3, impacts would be reduced to a less-than-significant level (Class II). With implementation of the required plans, permits, and MMs HWQ-1, HWQ-2, and MM GEO-3 erosion impacts would be reduced to a less-than-significant level.

Construction related to Marina improvements would include grading and ground disturbance within the geologically sensitive Terrace deposits. PG&E would limit adverse impacts to unknown paleontological resources during Project excavation (AC GEO-1, *Unknown Paleontological Resources*), which would halt or redirect construction if paleontological resources are encountered. PG&E has included worker training as part of the Proposed Project (AC CR-2, *Worker's Environmental Awareness Training*) which includes a training module on cultural and paleontological resources for all field personnel prior to the start of construction. MM GEO-4 (*Worker Environmental Awareness Training*) requires a qualified paleontologist to provide training to all new workers prior to any new worker beginning work on the Project site. This training includes protocols to follow should material suspected to be a fossil is encountered. With implementation of MM GEO-4, impacts would be reduced to less than significant (Class II).

4.8.5.2 Coastal Processes

Geographic Extent Context

For coastal processes, the geographic scope for cumulative impact would extend further from the DCPP site. Generally, natural sedimentation in coastal areas are into littoral cells, which is an area of coastline that contains a complete cycle of sedimentation including sources, transport paths, and sinks. The presence of sand on any particular beach depends on the transport of sand within the cell. Impacts have the potential to combine with other projects within the Morro Bay Littoral Cell which extends along the coast from Ragged Point, California (approximately 70 miles north of the DCPP site) to the DCPP site. The railyards are all in the uplands located outside of the coastal zone; therefore, they would not be affected by coastal processes.

Most of the cumulative projects listed in Table 3-1 are in the uplands, and because the railyards are located outside of the coastal zone, the projects which would be proximate to the railyards would also be outside the coastal zone, not affected by coastal processes, and would not contribute to a cumulative impact to coastal processes. The projects which are in close proximity

to the Proposed Project, all of which involve some degree of construction and could contribute to a cumulative impact to coastal processes, include:

Diablo Canyon Power Plant

- Orano System ISFISI Modifications (#1)
- Communications Facility (#2)

Offshore/Energy Projects

- Port San Luis Breakwater Repair (#25)

Cumulative Impact Analysis

Phase 1

While most of the DCPP site is located in the uplands, the Discharge Structure, Intake Structure, Intake Cove/Marina, and Breakwaters are all located within, or adjacent to, coastal waters, and construction in these areas may affect nearshore processes. The Intake Structure, Marina, and Breakwaters are not being demolished and would remain in place, but the Intake Structure would become inoperable in Phase 1. As most of the upland sites are set back from the cliffs and being demolished as part of the Proposed Project, the areas at most risk are the Discharge Structure, Intake Structure, Marina, and Breakwaters located in the immediate coastal area. The Intake Structure is protected by a seawall and the next closest infrastructure is the Marina Road which is set back on average 60 feet from the cliffs. Therefore, SLR-exacerbated erosion of the cliffs is not expected to affect the upland structures, Intake Structure or related infrastructure. Removing the Discharge Structure may exacerbate retreat due to SLR in the immediate area by removing a hardened structure that provides support for the cliff immediately behind the structure. However, this area would be backfilled with quarry rock to avoid or substantially lessen potential impacts.

The PBR site is partially within the coastal zone but is located approximately 0.6 miles from the existing shoreline, and well above potential floodwater levels, including potential tsunami levels, and therefore would not be affected by coastal processes. The SMVR-SB site is located outside of the coastal zone and therefore would not impact coastal processes. The projects which would be proximate to the railyards would also be outside the coastal zone, not affected by coastal processes, and would not contribute to a cumulative impact to coastal processes.

The Orano System ISFSI Modifications (#1) would occur at the DCPP site within the coastal zone. The Communications Facility (#2) is located in proximity to the main DCPP site and is within the coastal zone. This project includes construction of a small communications station in the uplands and has been on hold since 2018. The projects could entail an adverse impact to coastal processes because of their locations. However, similar to the Proposed Project, the Orano System ISFSI Modification (#1), and any future projects not currently contemplated, would be required to adhere to the applicable NPDES permit requirements and other state and federal permitting requirements. Therefore, Phase 1 of the Proposed Project would not be expected to result in a cumulatively considerable contribution to cumulative coastal processes impacts.

Phase 2

Work within the coastal zone for Phase 2 includes sealing the Intake Structure continued removal and restoration of the Discharge Structure, and construction of a bluff top road that would extend Shore Cliff Road from the south across the existing main facility site to connect to the existing Diablo Creek crossing and North Ranch Road/Pecho Valley Road north of the DCPP site.

The blufftop road segment to be constructed is located above coastal water impact areas, including beyond the tsunami hazard level, and far enough back from the cliff edges to avoid exposure to coastal hazards (see Section 4.8.1.3 under *Littoral Processes*; cliff retreat is estimated to be less than 5 meters for a 75-year period).

The Port San Luis Breakwater Repair (#25) is the only project which could pose a cumulative impact in combination with Phase 2 of the Proposed Project. It is not in close proximity to the Proposed Project, but because it involves breakwater repair in the same coastal area as the Proposed Project, it could impact coastal processes, which would be in addition to any impact on coastal processes related to Discharge Structure removal and restoration as part of the Proposed Project. However, because the Port San Luis Breakwater Repair is expected to be complete in 2023 and the Discharge Structure removal and restoration elements of the Proposed Project are scheduled for 2030-2031, no overlap would be anticipated. Therefore, Phase 2 of the Proposed Project would not result in a cumulative considerable contribution to cumulative coastal processes impacts.

Post-Decommissioning Operations

New Facility Operations. Operation of the new facilities installed as part of decommissioning would not impact coastal processes as they are all located outside the Coastal Zone and therefore would not contribute to cumulative impacts from other projects.

Future Actions. The Marina development would include parking lots (upper and lower), public restrooms, paving the top of the Intake Structure, and installing a boat hoist and articulated stairs. All these facilities, besides the upper parking area, could be exposed to coastal hazards, including but not limited to flooding, wave runup, and tsunamis. However, the Breakwaters would remain which would provide protection from waves and coastal flooding. The Port San Luis Breakwater Repair (#25) is the only project which could pose a cumulative impact in combination with Future Actions of the Proposed Project. It is not in close proximity to the Proposed Project, but because it involves breakwater repair in the same coastal area as the Proposed Project, it could impact coastal processes, which would be in addition to any impact on coastal processes related to coastal hazards.

4.8.6 Summary of Significance Findings

Table 4.8-5 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project.

Table 4.8-5. Summary of Impacts and Mitigation Measures – Geology, Soils, and Coastal Processes

	Impact Significance Class				
	Phase 1		Phase 2 Post-Decom		
Impact Statement	***DCPP***	***PBR/SB***	***DCPP***	***Ops/Marina***	**Mitigation Measures**
GEO-1: Expose structures, workers, and the public to damage or injury due to surface fault rupture, strong earthquake-induced ground shaking, seismically induced slope failures, liquefaction-related phenomena, expansive or unsuitable soils	II	III/III	II	III/III	**GEO-1:** Final Engineering and Geology Report and Geotechnical Investigation **GEO-2:** Seismic Hazard and Coastal Processes Assessment of Discharge Structure Backfill
GEO-2: Trigger erosion of loosened sediments or cause slope failure due to grading, excavation, and removal of surface impervious materials	III	III/III	II	III/II	**GEO-3:** Monitoring and Reporting of Potential Subsurface Structure Exposure **HWQ-1:** Prepare and Implement Drainage Plans **HWQ-2:** Long-Term Erosion and Sediment Control Plan
GEO-3: Destroy unique paleontological resources due to grading and excavation in geologic units of Moderate to High Paleontological Sensitivity	II	II/II	II	NI/II	**GEO-4:** Prepare and Implement Paleontological Resources Monitoring and Mitigation Plan and Worker Environmental Awareness Program
GEO-4: 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	III	NI/ NI	NI	III	None required
GEO-5: Expose structures, workers, and the public to damage or injury due to coastal hazards, including but not limited to flooding, wave runup, tsunamis, and bluff erosion and instability	II	NI/ NI	III	NI/NI	**GEO-5:** Discharge Structure Backfill and Natural Bluff Site Inspection
GEO-6: Impair nearshore sediment properties, characteristics, or processes during and after decontamination and dismantlement activities	II	NI/NI	III	NI/NI	**MBIO-3:** Water Quality Monitoring Plan **MBIO-4:** Cofferdam Installation and Dewatering Plan **MBIO-9:** Mooring Placement Habitat Survey
GEO-7: Impair coastal wave, current, or circulation patterns during and after decontamination and dismantlement activities	III	NI/ NI	III	NI/NI	None required

Table 4.8-5. Summary of Impacts and Mitigation Measures – Geology, Soils, and Coastal Processes

	Impact Significance Class				
	Phase 1		Phase 2 Post-Decom		
Impact Statement	***DCPP***	***PBR/SB***	***DCPP***	***Ops/Marina***	**Mitigation Measures**
GEO-8: Increase the effects of coastal flooding or erosion associated with sea level rise during and after decontam-ination and dismantlement activities	II	NI/NI	III	NI/NI	**GEO-5:** Discharge Structure Backfill and Natural Bluff Site Inspection
Cumulative Impact	Not cumulatively considerable		Not cumulative considerable		None required

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long-Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

4.9 Greenhouse Gas Emissions

This section evaluates the potential for the Proposed Project to generate greenhouse gas (GHG) emissions, either directly or indirectly, within the Proposed Project area. Potential air quality impacts are discussed in Section 4.2, *Air Quality*. The section begins with a discussion of the scientific background on GHG emissions management, and the existing environmental setting related to GHG emissions. Following that discussion, the section identifies applicable significance thresholds, assesses potential impacts associated with GHG emissions from decommissioning activities and their significance, and recommends measures to avoid or substantially reduce any effects found to be potentially significant.

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and considered in preparing this section:

- Consider the Proposed Project's effects on climate change including analysis of GHG emissions.
- Quantify GHG emissions from all Project sources (direct and indirect), present significance thresholds, and determine the significance of impacts.
- Design and operate the Project to minimize GHG emissions including use of high-efficiency equipment, reducing haul trips, using a truck fleet with the newest/cleanest possible vehicles including zero to near-zero emission vehicles, using locomotives and marine vessels with the cleanest available engine emissions technology including operational parameters to maximize fuel efficiency, and consider on-site renewable energy generation.

4.9.1 Environmental Setting

Introduction

GHGs are defined as any gas that absorbs infrared radiation in the atmosphere. GHGs include, but are not limited to, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). These GHGs lead to the trapping and buildup of heat in the atmosphere near the Earth's surface, commonly known as the greenhouse effect. There is overwhelming scientific consensus that human-related emissions of GHGs above natural levels have contributed significantly to global climate change by increasing the concentrations of the gases responsible for the greenhouse effect, which causes atmospheric warming above natural conditions.

Because GHG emissions are known to increase atmospheric concentrations of GHGs, and increased GHG concentrations in the atmosphere exacerbate global warming, a project that adds to the atmospheric load of GHGs adds to the problem. To avoid disruptive and potentially catastrophic climate change, annual GHG emissions must be substantially reduced. The impact to climate change due to the increase in ambient concentrations of GHGs differs from criteria pollutants (see Section 4.2, *Air Quality*), in that GHG emissions from a specific project do not cause direct adverse localized human health effects. Rather, the direct environmental effect of

GHG emissions is the cumulative effect of an overall increase in global temperatures, which in turn has numerous indirect effects on the environment and humans.

The Intergovernmental Panel on Climate Change (IPCC) completed a Fifth Assessment Report (AR5) in 2014 that contains information on the state of scientific, technical, and socio-economic knowledge about climate change. The AR5 includes working group reports on basics of the science, potential impacts and vulnerability, and mitigation strategies. Global climate change has caused physical, social, and economic impacts in California, such as land surface and ocean warming, decreasing snow and ice, rising sea levels, increased frequency and intensity of droughts, storms, and floods, and increased rates of coastal erosion. In its Climate Change 2014 Synthesis Report, which is part of the AR5, the IPCC (2014) notes:

> *Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems…warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen.*

The potential of a gas or aerosol to trap heat in the atmosphere is called global warming potential (GWP). The GWP of different GHGs varies because they absorb different amounts of heat. Carbon dioxide (CO_2), the most abundant GHG, is used to relate the amount of heat absorbed to the amount of the gas emissions; this is referred to as CO_2 equivalent (CO_2e). CO_2e is the amount of GHG emitted multiplied by the GWP. The GWP of CO_2, as the reference GHG, is 1. Methane has a GWP of 25; therefore, 1 pound of methane equates to 25 pounds of CO_2e. Table 4.9-1 shows a range of gases with their associated GWP, their estimated lifetime in the atmosphere, and the GWP over a 100-year timeframe (per federal and state reporting requirements).

Table 4.9-1. Global Warming Potential (GWP) of Various Greenhouse Gases

Greenhouse Gas	Life in Atmosphere (years)	100-year GWP (average)
Carbon Dioxide	50-200	1
Methane	12	25
Nitrous Oxide	120	298
Hydrofluorocarbons	1.5-264	12-14,800
Sulfur Hexafluoride	3,200	22,800

Source: US Environmental Protection Agency (USEPA), 2015.

In California, the California Air Resources Board (CARB) is the primary agency responsible for providing information on implementing the GHG reductions required by the State pursuant to Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, and its 2016 update, Senate Bill (SB) 32. Together, these laws require CARB to develop regulations that reduce GHG emissions to 1990 levels by 2020 and to 40 percent below 1990 levels by 2030. CARB developed and approved its first Scoping Plan in 2008 which described its approach to meeting the AB 32 goal.

After enactment of SB 32, CARB completed the 2017 Climate Change Scoping Plan Update (Scoping Plan) (CARB, 2017) to provide the strategy for achieving California's 2030 GHG emissions

target. In addition to the Scoping Plan, CARB maintains an online inventory of GHG emissions in California. This inventory is an important companion to the Scoping Plan because it documents the historical emission trends and progress toward meeting the 2020 and 2030 targets, which are 431 million metric tons (MMT) of CO_2e and 260 $MMTCO_2e$, respectively.

The 2017 Scoping Plan includes a modeled reference scenario, or "business as usual" projection to monitor the State's emission reduction progress, which estimates future emissions based on current emissions, expected regulatory implementation, and other technological, social, economic, and behavioral patterns. To meet the 2030 target, the Scoping Plan recommends a range of actions (CARB, 2017), including:

- 50 percent Renewable Portfolio Standard (RPS).
- Doubling building energy efficiency.
- More clean, renewable fuels.
- Cleaner, zero or near-zero emissions cars, trucks, and buses.
- Walkable/bikeable communities with transit.
- Cleaner freight and goods movement.
- Reduced super-pollutants from dairies, landfills, and refrigerants.
- Continue Cap and Trade program for transportation, industry, natural gas, and electricity.
- Invest in communities to reduce emissions.

The CARB 2022 Scoping Plan Update assesses progress towards achieving the SB 32 2030 target, while laying out a path to achieve carbon neutrality no later than 2045. The 2022 Scoping Plan Update discusses the ways in which a CEQA analysis may support climate action and the role of local government action. Examples of GHG reduction mechanisms that may be recommended as mitigation appear in Section 4 of Appendix D of the CARB 2022 Scoping Plan Update (CARB, 2022b).

Federal

In the most recent national GHG inventory, the USEPA estimated that in 2020, United States GHG emissions were 5,981.4 $MMTCO_2e$. Within the United States, fossil fuel combustion accounted for 92.1 percent of CO_2 emissions in 2020; these emissions include the transportation use of fossil fuels and electric power generation. Other contributing types of sources include agriculture, waste, and industrial processes and product use (USEPA, 2022).

State

Despite growing population and gross domestic product in California, gross GHG emissions continue to decrease. The most recent California GHG inventory was published in 2022 and contains data up to 2020 (CARB, 2022a). In the 2022 California GHG inventory, CARB estimated that GHG emissions from statewide activities totaled 369.2 $MMTCO_2e$, or approximately 6 percent of the national total. The progress indicates that California achieved the 2020 GHG emission target of 431 $MMTCO_2e$ established by AB 32.

Even though California is aggressively moving to reduce its annual GHG emissions, it is already experiencing the effects of GHG-related climate change, which is a relevant aspect of the environmental setting. A 2018 report entitled *Indicators of Climate Change in California* (Office of

Environmental Health Hazard Assessment [OEHHA], 2018) concludes that the changes occurring in California are largely consistent with those observed globally. These climate change indicators show the following:

- Increasing daily annual average temperatures in the State
- More frequent extreme events, including wildfires and heat waves
- Declining runoff volumes due to a diminished snowpack
- Declining number of "winter chill hours" crucial for high-value fruit and nut crops
- Movement of flora and fauna at higher elevations and different times and locations

Local

The County of San Luis Obispo (County) initially adopted the EnergyWise Plan in 2011, which included a community-wide inventory of GHG emissions from activities and sources in the unincorporated areas of the County. The inventory calculated municipal and community-wide emissions caused by activities in 2006, including transportation, waste, agriculture, energy, and aircraft-related activities for the unincorporated areas (San Luis Obispo, 2011). An update in 2016 indicated that overall GHG emissions from both government operations and community-wide sources in the unincorporated areas of the County decreased by approximately seven percent between 2006 and 2013, from 1,884,358 (2006) to 1,757,387 $MTCO_2e$ in 2013 (San Luis Obispo, 2016).

Existing Site Conditions

The DCPP contributes to community GHG emissions as an active site of employment and by using conventional fossil fuels to operate equipment onsite. DCPP employs approximately 1,157 to 1,400 workers (see Section 2.2.3.1) that commute to the site. These mobile sources of GHG emissions are part of the baseline community-wide GHG emissions. Additionally, existing equipment at the DCPP site includes an auxiliary boiler, diesel-powered generators, and emergency pump engines that support baseline DCPP operations. Based on the activity of workers commuting to the site and records of fuel used by existing equipment at the DCPP site, the DCPP site creates current baseline GHG emissions of approximately 5,341 $MTCO_2e$ per year.

4.9.2 Regulatory Setting

Appendix C summarizes relevant federal and state laws, regulations, and policies related to GHG emissions. Additional details on major state programs and local requirements related to the Project are discussed below.

Mandatory Reporting of Greenhouse Gas Emissions

The CARB Regulation for the Mandatory Reporting of Greenhouse Gas Emissions, or mandatory reporting rule (MRR), applies to electric power distribution companies and to fossil fuel electricity generating facilities with a nameplate capacity equal or greater than one megawatt capacity (17 CCR 95100 to 95163). As an Electric Power Entity and an owner of fossil fuel electric power generation sources, the MRR requires PG&E to separately report GHG emissions associated with the electricity delivered to its end-use customers (Section 95111) and emissions from PG&E's owned electricity generation facilities (Section 95112). The MRR captures the GHG emissions of

the total electricity produced by PG&E's power plants and electricity imported by PG&E for end use by customers. The operations of DCPP are categorically excluded from the MRR reporting (Section 95101) because it is powered by nuclear energy and existing on-site stationary combustion emissions are under 10,000 $MTCO_2e$ per year.

Cap-and-Trade Program

The California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation (Cap-and-Trade Program) was initially approved by CARB in 2011 (17 CCR 95801 to 96022). The Cap-and-Trade Program applies to covered entities that fall within certain source categories, including first deliverers of electricity (such as fossil fuel power plants), natural gas suppliers, and electrical distribution utilities, such as PG&E.

Covered entities must hold compliance instruments sufficient to cover the entity's actual GHG emissions, as evidenced through the MRR requirements. This means that PG&E, as an owner of fossil fuel power plants and as a natural gas and electrical distribution utility, bears separate GHG compliance obligations for delivering electricity to the grid from its power plants and for making natural gas and electricity deliveries to end-users that are not otherwise covered entities in the Cap-and-Trade Program.

The compliance instruments that must be submitted by covered entities may be in the form of either an allowance or an offset for every ton of GHG emitted. The use of compliance offset credits is limited to a small percentage (4 or 6 percent) of each entity's total obligation, and at least one half of the compliance offsets submitted must also provide "direct environmental benefits" to California (defined in 17 CCR Sec 95989). Compliance offset credits are distinct and separate from voluntary-market registry offset credits that are excluded from use in the Cap-and-Trade Program.

The Cap-and-Trade Program allows CARB to approve third-party offset project registries and protocols to facilitate the listing, reporting, and verification of GHG-reductions achieved by offset projects. This helps to create a supply of registry offset credits. Registry offset credits must be converted by CARB into compliance offset credits before they can become eligible for use in the Cap-and-Trade Program.

County of San Luis Obispo

The Conservation and Open Space Element of the San Luis Obispo County General Plan establishes goals focused on reducing community-wide GHG emissions by 2020 by reducing vehicle-miles traveled, increasing energy efficiency, and increasing renewable energy use in the County. To delineate the strategies, the Board of Supervisors adopted the EnergyWise Plan in 2011 (San Luis Obispo, 2011), which identified how the County would achieve a GHG reduction target of 15 percent below baseline by 2020. The EnergyWise Plan is the County's framework for climate action. An update in 2016 summarized progress towards implementing measures and illustrated that overall GHG emissions from both government operations and community-wide sources in the unincorporated areas of the County decreased by approximately seven percent between 2006 and 2013 (San Luis Obispo, 2016). The EnergyWise Plan is not a qualified Climate Action Plan under SB 32.

The goals of the EnergyWise Plan (San Luis Obispo, 2016) fall into categories for government operations and for community-wide action, as follows:

- G1. Reduce energy use in existing County facilities 20 percent by 2020.
- G2. Increase the use of renewable energy sources in County facilities to account for 10 percent of total energy used.
- G3. Reduce the amount of waste generated at County facilities and increase the County's waste diversion rate to 80 percent by 2020.
- G4. Reduce water use in County facilities 20 percent by 2020.
- G5. Reduce emissions from the County's vehicle fleet by using alternative fuels and decreasing vehicle miles traveled.
- G6. Provide additional opportunities for employees to utilize alternative transportation options and reduce commute lengths.
- C1. Address future energy needs through increased conservation and efficiency in all sectors.
- C2. Increase the production of renewable energy from small-scale and commercial-scale renewable energy installations to account for 10 percent of total local energy use by 2020.
- C3. Reduce methane emissions from disposed waste by achieving as close to zero waste as possible through increased diversion rates, methane capture and recovery, and other strategies.
- C4. Reduce emissions from potable water use by 20 percent from per capita baseline levels by 2020 by prioritizing water conservation before development of new water resources.
- C5. Reduce transportation emissions through improvements in vehicle fuel efficiency, expansion of non-auto modes of travel, and implementation of smart growth land use policies.
- C6. Reduce emissions in agricultural practices through water conservation, upgrade of equipment technology, and use of best management practices.

San Luis Obispo County Air Pollution Control District

Many local air pollution control agencies in California have proposed numerical or other GHG significance criteria. The San Luis Obispo County Air Pollution Control District (SLOCAPCD), which has local regulatory authority over the air pollutant emissions, released the CEQA Air Quality Handbook (SLOCAPCD Handbook) originally in 1997, with updates in 2003, 2009, and 2012. The SLOCAPCD Handbook describes GHG emissions thresholds of significance for San Luis Obispo County (SLOCAPCD, 2012).

The SLOCAPCD staff identified a strategy for minimizing GHG emissions for marine vessels. Large vessels, 300 gross registered tons or larger, are encouraged to participate in the regional voluntary Vessel Speed Reduction program. Through the Vessel Speed Reduction program, agencies and partners can request that container and car carrier companies slow down their vessels to a speed of 10 knots or less from May 15 to November 15. The National Oceanic and Atmospheric Administration (NOAA), with support from the United States Coast Guard, oversees this program to reduce the risk of fatal ship strikes to endangered blue, fin, and humpback whales within and

near the region's national marine sanctuaries (NOAA, 2022). The program also aims to reduce fuel use by marine vessels and regional greenhouse gas emissions and improve regional air quality and human health outcomes.

City of Pismo Beach

The City of Pismo Beach Climate Action Plan (2014) includes a GHG emissions reduction target to reduce the community wide GHG emissions to 10 percent below 2005 levels by 2020 (Pismo Beach, 2014).

County of Santa Barbara

Santa Barbara County developed the Santa Barbara Energy and Climate Action Plan in 2015 in response to AB32 – Global Warming Solutions Act, SB 375-Sustainable Communities and Climate Protection Act, and SB 97- California Environmental Quality Act, with a goal to reach 15 percent below 2007 levels by 2020 (Santa Barbara, 2015).

Santa Barbara County also prepared a Sustainability Action Plan in 2020, which provides baseline emissions inventory to be incorporated into the County of Santa Barbara's Climate Action Strategy in the future (Santa Barbara, 2020).

As described in Section 1.3.3.2, *Surface Transportation Board*, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction over railyards (e.g., SMVR-SB).

4.9.3 Significance Criteria

The impacts caused by GHG emissions are, by their nature, cumulative impacts. Emissions from all GHG sources contribute to the total amount of GHG in the atmosphere, and the effects of GHG emissions are not limited to the localities where they are generated.

Per State CEQA Guidelines Appendix G, the Project would be found to cause a significant environmental impact if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the GHG emissions.

San Luis Obispo County Air Pollution Control District

The SLOCAPCD CEQA Air Quality Handbook includes thresholds of significance for construction and operations GHG emissions. For construction projects, the GHG emissions must be quantified and amortized over the life of the project, then added to the operational emissions. The SLOCAPCD's 2021 Interim CEQA GHG Guidance recommends use of 10,000 $MTCO_2e$ per year as a threshold for stationary sources (industrial projects) in San Luis Obispo County, when the project is required to obtain air quality permits from SLOCAPCD. For CEQA evaluations of other types of projects, such as residential and commercial projects, the SLOCAPCD recommends that lead agencies consider use of a threshold of "no net increase" relative to baseline conditions (SLOCAPCD, 2021).

Mitigation defined in the SLOCAPCD CEQA Air Quality Handbook and 2021 Interim CEQA GHG Guidance should be applied if the project causes potentially significant levels of GHG emissions (SLOCAPCD, 2012; SLOCAPCD, 2021). The SLOCAPCD Handbook includes site design methods and efficiency improvements for land use developments that influence long-term transportation demand and energy consumption by County residents and workers; however, the Proposed Project decommissioning activities do not involve developing land for residential and commercial projects. The 2021 interim guidance identifies a hierarchy of on-site and feasible off-site mitigation suggestions, including GHG offset projects, for lead agency consideration.

Santa Barbara County Air Pollution Control District

The SBCAPCD recommends finding that a project will not have a significant impact on the climate, if the project will:

- Emit less than the screening significance level of 10,000 $MTCO_2e$ per year, or
- Show compliance with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions [sources subject to the AB 32 Cap-and-Trade requirements pursuant to Title 17, Article 5 (California Cap on Greenhouse Gas Emissions and Market-based Compliance Mechanisms) would meet the criteria], or
- Show consistency with the AB 32 Scoping Plan GHG emission reduction goals be reducing project emissions 15.3 percent below business as usual.

If a project's emissions exceed any of the above thresholds, the SBCAPCD recommends applying mitigation measures (SBCAPCD, 2015).

County of Santa Barbara

The County of Santa Barbara subjects all industrial stationary-source projects to a numeric, mass-rate threshold of 1,000 $MTCO_2e$ per year to determine if GHG emissions from an individual project of stationary sources could constitute a significant cumulative impact. Annual GHG emissions that are equivalent to or exceed the threshold are determined to have a significant cumulative impact on global climate change unless mitigated (Santa Barbara, 2021).

4.9.4 Environmental Impact Analysis and Mitigation

Impact GHG-1: Generate GHG emissions that may have a significant impact on the environment (Class II: Less than Significant with Mitigation).

The Proposed Project would generate GHG emissions during decommissioning and dismantlement activities. The sources of GHG emissions directly related to the Proposed Project include off-road equipment, on-road vehicles, rail locomotives, and marine vessels used in the process of dismantling, decontaminating, and removing the DCPP facility after final shutdown.

The baseline and environmental setting for this analysis includes the DCPP in an "operating" status. The basis for this EIR is that PG&E will retire DCPP and transition DCPP into a "decommissioning" status. The retirement plans approved by the California Public Utilities Commission in January 2018 include procuring replacement power supplies from cost-effective, GHG-free

portfolio of energy efficient renewables and energy storage projects, as described in EIR Section 1.2.1, *DCPP License Expiration and Retirement*.

Because decommissioning would be a result of expiration of existing licenses to operate and shutdown of the DCPP reactors, this analysis focuses on the GHG emissions of the decommissioning activities themselves and does not address the effects of procuring replacement power.

The Proposed Project's GHG emissions include direct and indirect emissions. Direct emissions include GHG emissions generated from equipment and vehicles during decommissioning. The Proposed Project includes decommissioning and remediation of the site after plant shutdown. Because of the uncertain future use of the site beyond PG&E's proposal to apply for a new or amended CSLC lease and sublet (or other arrangement) the Marina to a third party for permitting and reuse, the nature of long-term operation and operational-phase emissions associated with any other potential development of the site after completion of the Proposed Project (see Section 8.0, *Potential Site Reuse Concepts*) are not reasonably foreseeable.

Indirect GHG emissions sources can take many forms. Some of these forms include increase or decrease in electricity or water use, loss of natural CO_2 uptake from developing formerly vegetated areas, material recycling, etc.

Phase 1

Phase 1 GHG emissions include those caused by construction equipment and transportation via truck, rail, and barge. For GHG emissions that by nature have a global impact, the emissions quantification includes activities within the Proposed Project area, including the railyards, and transportation along routes to access out-of-state disposal site destinations. Therefore, all foreseeable GHG emissions are totaled together regardless of where the emissions occurred.

Phase 1 activities together with Phase 2 comprise the total Proposed Project GHG emissions. Total GHG emissions would occur at variable annual rates over the eight years of Phase 1 activity (2024-2031), then would diminish during the eight years of Phase 2 activity (2032-2039).

Table 4.9-2 summarizes the GHG emissions that would be caused by Phase 1 activities, including on-site decommissioning activities at DCPP, site modifications at the railyard, and waste transportation via either of the SMVR railyard and along the anticipated haul routes to the different disposal destinations.

Phase 2

Table 4.9-3 summarizes the GHG emissions that would be caused by Phase 2 remediation and restoration activities with those of long-term Marina operations (see Future Actions, below), including construction equipment related to site remediation and restoration, as well as waste transportation along haul routes.

Phase 2 emissions would occur at much lower annual rates than during Phase 1 because Phase 1 includes the bulk of demolition and transportation of waste from DCPP, and Phase 2 would be limited to the restoration and landscaping of the site following demolition, including Discharge Structure removal and restoration.

Table 4.9-2. Phase 1 (2024-2031) GHG Emissions

Proposed Project	Location of Emissions	GHG Emissions ($MTCO_2e$)
DCPP Onsite Decommissioning	San Luis Obispo County Air Pollution Control District (SLOCAPCD)	65,770
Waste Transportation		3,868
SMVRR Activities	Santa Barbara County Air Pollution Control District (SBCAPCD)	7,904
Waste Transportation		116
Waste Transportation	San Joaquin Valley Air Pollution Control District (SJVAPCD)	296
Waste Transportation	South Coast Air Quality Management District (SCAQMD)	437
Waste Transportation	Ventura County Air Pollution Control District (VCAPCD)	51
Waste Transportation	Mojave Desert Air Quality Management District (MDAQMD)	563
Waste Transportation and Rock and Gravel Fill	International	12,740
Total Phase 1 Emissions	**---**	**91,744 $MTCO_2e$**
Maximum Yearly Emissions Rate	---	10,402 $MTCO_2e$ per year

Source: EIR Appendix D, Phase 1 AQ/GHG Summary, Table 2.1.

Table 4.9-3. Phase 2 (2032-2039) GHG Emissions Overall

Proposed Project	GHG Emissions
Total Phase 2 Emissions	7,698 $MTCO_2e$
Operational Emissions	316 $MTCO_2e$ per year
Maximum Yearly Emissions	1,586 $MTCO_2e$ per year

Source: EIR Appendix D, Phase 2 AQ/GHG Summary, based on PG&E, 2021.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, operational activities at the DCPP site would include long-term management of the GTCC Waste Storage Facility, and operation of the Security Building, indoor Firing Range, and Storage Buildings. Emissions estimates for these operational activities are summarized in Table 4.9-3 (details appear in Appendix D, Phase 2 AQ/GHG Summary). These post-decommissioning activities would not generate emissions at levels that could exceed current baseline emissions of 5,341 $MTCO_2e$ per year. Relative to DCPP site baseline activities, post-decommissioning use of the DCPP site would cause no net increase in GHG emissions. The post-decommissioning activities would not generate GHG emissions at a level that would have a potentially significant impact on the environment (Class III).

Future Actions. Marina improvement and operations would be completed by a third party who would be required to obtain necessary land use and building permits from the County as well as a new or amended lease from CSLC. The Breakwaters would remain in place and the Marina would be used for small vessels to be launched into the Intake Cove. An estimate of GHG emissions associated with Marina improvements and operations is included in the results for

Phase 2 calculations. These activities would not generate emissions at levels that could exceed the current baseline emissions of 5,341 $MTCO_2e$ per year. As a result, these future actions would not generate GHG emissions at a level that would have a potentially significant impact on the environment (Class III).

Overall Project GHG Emissions and Mitigation

Phase 1 and Phase 2 activities overall would result in Project GHG emissions rates ranging up to 10,402 $MTCO_2e$ per year. This level of GHG emissions would exceed the current GHG emissions of the DCPP site in the baseline conditions. This level would also exceed SLOCAPCD recommended threshold of 10,000 $MTCO_2e$ per year for stationary sources (industrial projects) in San Luis Obispo County and the Santa Barbara County threshold of 1,000 $MTCO_2e$ per year.

The impact to global climate change is, by definition, cumulative. Because an overall increase in GHG emissions would occur relative to baseline conditions, the Proposed Project would generate GHG emissions at a level that would have a potentially significant impact on the environment, before considering mitigation. Additionally, the Project GHG emissions prior to mitigation would result in a cumulatively considerable contribution to the cumulative impact of global climate change.

The GHG emissions estimates include the effects of Applicant Commitments (ACs) detailed in Table 2-12 which are part of the Proposed Project. However, to achieve "no net increase" of GHG emissions relative to baseline conditions and to demonstrate that Project GHG emissions would be fully (100 percent) offset at a 1-to-1 (1:1) ratio, mitigation would need to occur in amounts that would vary from year to year, up to 10,402 $MTCO_2e$ per year for the direct and indirect GHG emissions that make up the Proposed Project's contribution to the cumulative climate change impact.

MM GHG-1 (*Reduce GHG Emissions or Surrender Offset Credits*) is recommended to reduce or offset Project-related GHG emissions to avoid a significant impact on the environment as follows:

- Avoid onsite GHG emissions created by improving the efficiency of operations or avoiding on-site use of diesel fuel, gasoline, and other fossil fuels; for example, by electrification of equipment; or
- Cause GHG reductions or carbon sequestration to occur off site, as represented by local GHG reduction or carbon sequestration projects or offset credits. Local GHG reduction or carbon sequestration projects in San Luis Obispo County and Santa Barbara County should be given first preference. The other four counties of California's Central Coast air basins (Ventura, Monterey, San Benito, and Santa Cruz counties) should be given second preference. The remaining GHG emission reductions needed could be secured by purchasing and retiring offset credits from CARB-approved offset project registries, Climate Forward Forecast Mitigation Units, or similar GHG reduction/carbon sequestration supplies that are consistent with requirements specified in the State CEQA Guidelines, and case law. Examples of off-site GHG mitigation that appear in Section 4.1.2 of Appendix D of the CARB 2022 Scoping Plan Update (CARB, 2022b) include: local urban forestry; local building retrofit programs; offsite electric vehicle chargers; and public transit subsidies.

MM GHG-1 requires PG&E to reduce or offset GHG emissions annually and to annually report the steps taken and local GHG reductions achieved, credits surrendered, or any GHG offset project sponsored by PG&E. Successful implementation of the mitigation would need to be demonstrated in an initial GHG Reduction and Reporting Plan with subsequent annual reporting for continued agency oversight. With mitigation, the rates of GHG emissions during Phase 1 and Phase 2 of the Proposed Project could feasibly be reduced or offset to a level that would not result in a significant impact on the environment (Class II).

Mitigation Measure for Impact GHG-1.

GHG-1 **Reduce GHG Emissions or Surrender Offset Credits.** The Applicant or its designee shall reduce or offset annual incremental greenhouse gas (GHG) emissions from Project-related sources. The incremental GHG emissions are those GHG emissions resulting from decommissioning activities, including transportation, during Phase 1 and Phase 2 of the Project. These incremental emissions are estimated to be less than or equal to 10,402 $MTCO_2e$ per year.

The Applicant or its designee shall prepare and implement a GHG Reduction and Reporting Plan that describes how annual GHG emissions could be reduced with local projects and offsets. The Plan shall include provisions for and outline of an annual report to the County that summarizes the emission reduction measures implemented, quantifies the Project-related estimated GHGs emissions for the year, and demonstrates the quantity of metric tons of local GHG reductions/carbon sequestrations secured and voluntary-market registry offset credits surrendered. Each annual report shall reconcile the actual emissions of the previous year with the mitigation quantity, in terms of $MTCO_2e$. The standard of performance for this mitigation is to reduce or offset GHG emissions at a quantity that equals or exceeds the emissions of Phase 1 and Phase 2 of the Project during any year. The Applicant or its designee may demonstrate that lower levels of GHG mitigation are needed during certain years of low activity.

Onsite GHG reductions and local GHG reduction/carbon sequestration projects should be exhausted to the extent feasible prior to surrendering credits from offsite projects. If local projects will provide offsite mitigation, first preference should be given to projects in San Luis Obispo and Santa Barbara Counties and second preference to projects in the other four counties of California's Central Coast air basins (Ventura, Monterey, San Benito, and Santa Cruz counties). Implementing the required amount of any of the following types of emission reductions shall be an acceptable means of mitigation:

- GHG reductions generated or carbon sequestrations within San Luis Obispo and Santa Barbara Counties first and then in the other four Central Coast counties by implementing a GHG reduction project consistent with a methodology or accounting protocol that is equal to or more rigorous than CARB protocol requirements under 17 CCR 95972. The protocol for achieving reductions must determine the extent to which GHG emission reductions and GHG removal enhancements are achieved by the GHG reduction project and must establish a GHG reduction project baseline and demonstrate that the reduction of GHG emissions is real, permanent,

quantifiable, verifiable, enforceable, and additional. For the purposes of this mitigation measure, the definitions of 17 CCR 95802(a) shall apply. Note that enforceable, as defined in 17 CCR 95802(a), is specific to CARB's Cap-and-Trade regulatory program, where CARB holds enforcement authority. This mitigation measure would generate GHG reductions outside of CARB enforcement authority. Therefore, enforceable is modified to mean in this context that the GHG reduction project generating the GHG offset must be owned by a single entity and must be backed by a legal instrument or contract that defines exclusive ownership.

- GHG reductions from voluntary-market registry offset credits listed with and verified by: (1) one of the following CARB-approved Offset Project Registries: American Carbon Registry (ACR); Climate Action Reserve (CAR); or Verra, formerly Verified Carbon Standard. "Offset Project Registry" has the same definition as that set forth in Section 95802 of Title 17 of the California Code of Regulations (17 CCR 95802); (2) Climate Forward; or (3) GHG reduction/carbon sequestration supplies that are consistent with requirements specified in the State CEQA Guidelines and case law. Offset credits should be selected based on the preference hierarchy found in SLO County APCD's 2021 Interim GHG Guidance or the 2022 CARB Scoping Plan Update Appendix D Section 4.1.

Plan Requirements and Timing. The GHG reductions achieved, credits surrendered, or any GHG offset project sponsored by the Applicant or its designee, must be supported by a demonstration to the County that any local projects are acceptable to San Luis Obispo County APCD and that any offsets are consistent with requirements specified in the State CEQA Guidelines and case law. The GHG Reduction and Reporting Plan shall be submitted to the County Department of Planning and Building for review and approval in consultation with the San Luis Obispo County Air Pollution Control District, upon the filing of any building, grading or construction permit applications related to decommissioning. The necessary annual quantity of local GHG reduction/carbon sequestration projects shall be committed to and any verified offset credits under this plan shall be surrendered prior to April 15 of each calendar year following the year of initiating construction.

Monitoring. The County Department of Planning and Building, in consultation with the San Luis Obispo County APCD, will review and approve the GHG Reduction and Reporting Plan and any proposed GHG reduction credits prior to their use as mitigation and prior to initiating decommissioning activities. Subsequent annual reporting of GHG emissions and reduction or offset measures implemented will be reviewed and approved by the County Department of Planning and Building in consultation with the San Luis Obispo County APCD.

Impact GHG-2: Conflict with GHG emissions reduction plans, policies, or regulations (Class III: Less than Significant).

The GHG emissions sources of the Proposed Project would not be directly regulated by any federal, state, or local GHG emission reduction programs. Decommissioning activities would either be exempt from direct regulation or would be indirectly controlled by the mandatory use

of fuels and equipment fleets that comply with CARB standards to reduce GHG emissions. Transportation fuels (diesel, gasoline, and fuels used by commercial harbor craft) used during the decommissioning activities would need to comply with California's Low Carbon Fuel Standard, which is a standard designed to decrease the carbon intensity of California's transportation fuel supply and provide an increasing range of low-carbon and renewable transportation fuel alternatives. Equipment and vehicles used during decommissioning (Phases 1 and 2) would also need to attain state and federal efficiency standards through the use of recent model-year engines (AC AQ-2), which would avoid unnecessary GHG emissions, and by minimizing use of conventional fossil fuels (AC AQ-6). Compliance with regulations and programs for energy efficiency would also help to reduce GHG emissions from vehicles (see Appendix C).

Decommissioning wastes including concrete and asphalt that can be recycled and reused. The Concrete Reuse Plan would increase the reuse of concrete on site and eliminate the need for off-site transportation and disposal. California's Climate Change Scoping Plan (CARB, 2017) identifies waste diversion and recycling as a policy goal to reduce GHG emissions, and the State has a policy goal that 75 percent of the solid waste generated by source reduced, recycled, or composted by 2020. The Conservation and Open Space Element of the San Luis Obispo County General Plan established goals to reduce community-wide GHG emissions by 2020. Although the County does not have a qualified Climate Action Plan under SB 32, the County's EnergyWise Plan (San Luis Obispo, 2016) identifies how government operations and community-wide action may be directed to achieve the GHG reduction goals of the County. The Proposed Project activities would not alter the efforts underway to reduce GHG emissions from government operations and community-wide sources in the County, although the proposed decommissioning activities include steps to recycle and reuse waste, which would be consistent with the County goals for reducing GHG emissions. The Proposed Project would not have any potential to conflict with the goals of the EnergyWise Plan.

There are no other federal, state, or local GHG emissions reduction regulations, policies, or plans that would directly apply to the Proposed Project's GHG emissions sources. Therefore, the Proposed Project would not conflict with any applicable plan, policy, or regulation related to reducing GHGs. Therefore, the potential to conflict with GHG emissions reduction plans, policies, or regulations would be less than significant (Class III).

Mitigation Measures for Impact GHG-2. No mitigation measures are required.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, operational activities at the DCPP site would include long-term management of the GTCC Waste Storage facility and operation of the Security Building, indoor Firing Range, and Storage Buildings. These activities would require use of equipment and vehicles that would cause GHG emissions at levels below those that would occur during decommissioning. The post-decommissioning operations would not be directly subject to any GHG emission reduction regulations and would either be exempt from or would be required to comply with CARB rules and regulations to reduce GHG emissions. These activities would cause no potential conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions (Class III).

Future Actions. Marina improvement and operations would include GHG emissions caused by the use of small vessels for recreational, education, and/or commercial purposes. The third-party operator would be required to obtain the necessary land use and building permits from the County and a new or amended lease from CSLC. These future actions would cause no potential conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions (Class III).

4.9.5 Cumulative Impact Analysis

Geographic Extent Context

This impact assessment describes impact of the Proposed Project of contributing towards global climate change through GHG emissions. Because the direct environmental effect of GHG emissions is to influence global climate change, GHG emissions are by their nature inherently a cumulative concern with a cumulatively global scope.

Cumulative Impact Analysis

No single project could, by itself, result in a substantial change in climate. As the project-specific analysis for this Proposed Project evaluates effects that are globally cumulative, there is no separate cumulative impacts analysis for global climate change.

Furthermore, the evaluation of GHG impacts evaluates the contribution of the Proposed Project to inherently address cumulative climate change effects and demonstrates that the Proposed Project with mitigation would not generate significant levels of GHG emissions and would not conflict with GHG reduction goals. The Project-specific incremental impact on GHG emissions would therefore not be cumulatively considerable.

4.9.6 Summary of Significance Findings

Table 4.9-4 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project.

Table 4.9-4. Summary of Impacts and Mitigation Measures – Greenhouse Gas Emissions

	Impact Significance Class				
	Phase 1		Phase 2	Post-Decom	
Impact Statement	***DCPP***	***PBR /SB***	***DCPP***	***Ops/ Marina***	**Mitigation Measures**
GHG-1: Generate GHG emissions that may have a significant impact on the environment	II	II/II	II	III/III	**GHG 1:** Reduce GHG Emissions or Surrender Offset Credits
GHG-2: Conflict with GHG emissions reductions plans, policies, or regulations	III	III/III	III	III/III	None required
Cumulative Impact	Not cumulatively considerable		Not cumulatively considerable		None required

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long-Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

4.10 Hazardous and Radiological Materials

This section of the EIR describes conditions as they are currently known relative to hazardous and radiological materials associated with the decontamination and dismantlement of Diablo Canyon Power Plant (DCPP) Units 1 and 2, and the proposed Greater-Than-Class C (GTCC) Waste Storage Facility (the Proposed Project).[21] The structures, systems, and components (SSCs) that would be decommissioned are described in Section 2.0, *Project Description*. The geographic scope of this EIR covers activities proposed onshore at the DCPP site and offshore on tidal and submerged lands (PG&E, 2021c). The analysis also considers potential activities related to the transfer of radiological materials at a railyard located in the County of Santa Barbara (the railyard site in the City of Pismo Beach would be limited to non-radiological materials). PG&E has provided formal notification to the Nuclear Regulatory Commission (NRC) that it intends to permanently cease power operations of DCPP on November 2, 2024, for Unit 1 and August 26, 2025, for Unit 2 (PG&E, 2018a), but this review reflects both existing and anticipated future conditions after the final shutdown of the two units with Unit 1's closure beginning in 2024.

Following permanent shutdown, NRC regulations establish safety requirements associated with PG&E's removal of the nuclear power reactors from service. PG&E is also required to ensure site remediation activities reduce the residual radioactivity to the level that permits unrestricted or restricted use (10 Code of Federal Regulations [CFR] 50.2). NRC's 10 CFR 50.82 (Termination of License) sets forth the required steps for permanently shutting down a reactor, decommissioning a reactor, and terminating the reactor's operating license (NRC, 1988a). PG&E submitted for the NRC's review a Post Shutdown Decommissioning Activities Report (PSDAR) in 2019 (PG&E, 2019a) and a revised version (Revision 1) in 2022 (PG&E, 2022a), Irradiated Fuel Management Plan (IFMP) (Revision 1) in 2022 (PG&E, 2022b), and a Site-Specific Decommissioning Cost Estimate (SSDCE) (Revision 1) in 2022 (PG&E, 2022c) for the NRC's review. The submittals provide plans for radiological decommissioning, the decommissioning schedule, an assessment of the impact on the environment, the spent nuclear fuel (SNF) handling plans, and the cost to decommission the nuclear power reactors. Approximately two years before the end of the decommissioning process, PG&E is required to submit a License Termination Plan (LTP) that describes the remaining decommissioning activities and provides a final site survey to justify termination of the plant's operating licenses pursuant to 10 CFR 50.82(a)(11) (NRC, 1988a).

The NRC oversees plants undergoing decommissioning to:

- Confirm, through direct observation and verification, that decommissioning activities are being conducted safely, the spent nuclear fuel is being stored safely, and activities at the site are being conducted in accordance with all applicable federal regulations and any additional commitments, if applicable.
- Confirm that the administrative controls that the licensee has in place are adequate and comply with regulatory requirements (NRC's administrative controls include self-assessment, audits and corrective actions, design control, safety review, maintenance and surveillance, radiation protection, and effluent controls).

[21] GTCC wastes are defined as those wastes with concentrations of radionuclides which exceed the NRC limits established for Class C LLRW.

- Identify compliance with performance trends and verify that the licensee has taken actions to reverse any declining trends in performance requirements.

Inspection procedures used by the NRC during decommissioning activities are prescribed by NRC's Inspection Manual, Chapters 2561 (NRC, 2003), 2602 (NRC, 2005), and 2605 (NRC, 1996a). The NRC staff would continue to inspect DCPP while the reactors are operating and during decommissioning activities following shutdown of the reactors. The objectives of the inspections are to ensure that site operations comply with regulatory requirements, licensee commitments, and management controls; that SNF is transferred and stored safely, and that the reactors are decommissioned safely. Some of the specific areas and subjects of inspection under NRC's jurisdiction include:

- Operations
- Safety reviews, design changes, and modifications
- Maintenance and surveillance
- Physical Security assessment
- Spent fuel pool safety
- Occupational radiation exposure
- Radwaste treatment, and effluent and environmental monitoring
- Transfer and continued storage of SNF in the ISFSI.

To assess the effectiveness of PG&E's regulatory compliance programs at DCPP, the preparation of this EIR included a review of significant enforcement actions by the NRC between 2016 and 2021. In 2016, DCPP was issued one citation of low-to-moderate safety significance (NRC, 2016b). The finding referenced a failure to develop adequate instructions for the installation of external limit switches on motor-operated valves in violation of DCPP Technical Specification 5.4.1.a, "Procedures." No other significant enforcement actions were issued for the other years.[22]

During more recent NRC inspections conducted between January and July 1, 2021, only one finding of very low safety significance was documented. This finding involved NRC requirements and was treated as a non-cited violation consistent with Section 2.3.2 of the Enforcement Policy (NRC, 2021b). No findings or violations of notable significance were identified during the other 2021 inspections (NRC, 2021c through NRC 2021i).[23]

At the conclusion of decommissioning activities under the Proposed Project, PG&E must submit a Final Status Survey (FSS) that documents the final radiological conditions of the site, and request that the NRC terminate PG&E's 10 CFR Part 50 operating licenses and reduce the Federally-mandated security boundary to the footprint of the separately licensed ISFSI and the GTCC Waste Storage Facility. The NRC would approve the FSS Report and the licensee's request if it determines that the licensee has met both of the following conditions:

- The dismantlement has been performed in accordance with the approved LTP; and
- The final radiation survey and associated documentation demonstrate that the facility and site are suitable for release in accordance with the License Termination Rule (LTR) in 10 CFR Part 50 (NRC, 1988a).

[22] Enforcement actions may be accessed on the website: https://www.nrc.gov/about-nrc/regulatory/enforcement/current/reactor-actions/2021.html.

[23] Reports for all NRC inspections of nuclear power reactors may be accessed at https://www.nrc.gov/reactors/operating/oversight/listofrpts-body.html.

As described in Section 2.0, *Project Description*, implementation of the DCPP decommissioning plan by PG&E would remove radioactive material and hazardous substances to minimal, residual levels that would allow the site, with concurrence from the NRC and other state and local regulators, to be released for unrestricted use. Typically, the NRC's threshold for a site to be considered acceptable for unrestricted use is if the residual radioactivity that is distinguishable from background radiation results does not exceed 25 millirem per year, including that from groundwater sources of drinking water, and that the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA).

PG&E would prepare a LTP and submit it to the NRC. The threshold for unrestricted use included in the LTP would be based on the agreed-upon clean-up criteria that establish the guidelines for the Final Status Survey and ultimate termination of the DCPP NRC licenses, based on NRC regulations.

According to the most recent IFMP (PG&E, 2022b, p. 4), if there is an existing United States Department of Energy (DOE) facility in place and fully permitted by 2031, PG&E could begin transferring SNF and GTCC waste from the ISFSI and the GTCC Waste Storage Facility to the DOE in 2038, with the completion of the transfer by 2067. These fuel transfer activities are not part of the Proposed Project but are mentioned here for informational purposes in the interest of public disclosure. There is currently no indication that a DOE facility will be in place and able to accept SNF by 2031. Once the SNF is transferred, PG&E would complete the final decommissioning process for the entire site, including the ISFSI and the GTCC Waste Storage, which per the PSDAR is anticipated to occur in 2076 (PG&E, 2022a, p. 10).

Potential options for earlier disposition of SNF and GTCC waste, including the possible availability of one or more commercial Consolidated Interim Storage Facilities (CISF) (NRC, 2021j), are discussed in EIR Appendix G1. The Diablo Canyon Decommissioning Engagement Panel (DCDEP) recommended that PG&E move the SNF and GTCC waste stored in the DCPP ISFSI to a CISF (if a permanent federal repository is not available) as soon as such site becomes operational, presuming a safe transportation method for movement is developed and followed. However, the recommendation was not unanimous – another DCDEP member has presented an opposition paper recommending the SNF remain at the DCPP site until such time as a permanent federal repository exists (DCDEP, 2022).

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and considered in preparing this section:

- Clarify the length of time that decommissioned materials would be stored on site, the method of storage, the safety measures put in place to ensure that materials would be stored safely, the travel routes that would be used to transfer materials and the days and hours that this would occur, including at locations in proximity to residential areas.
- Clarify if dry cask storage will be able to withstand the impacts of routine aging, seismic risks, threats of terrorism, and impacts from the ocean environment, and how will they be monitored and repaired.

- Ensure safety of stored/packaged radioactive material; describe the best transportation and storage methods for them.
- Describe monitoring methods during facility dismantling for identifying contamination of land, sea, and air.
- Assess the potential effect of the elements and sabotage to the existing dry casks at the ISFSI.
- Describe procedures to address adverse unexpected events and emergencies.
- Address effects of the Pismo Beach Railyard (PBR) on the surrounding residential homes and Judkins Middle School.
- Continue to monitor for radiological contaminants in the surrounding lands and ocean and inform the visiting public of any on-site radiological contamination and related health concerns.
- Address toxic risks associated with proposed concrete batch plants and other proposed site infrastructure modifications.
- Evaluate use of a climate-controlled containment area to protect existing dry casks at the ISFSI, including use of the containment domes for this purpose.
- Describe if a hot cell or similar system will be installed.
- Assess use of a hardened on-site storage facility.
- Describe the criteria used to determine reuse vs disposal of materials.
- Confirm if the proposed facility to store greater than Class C waste would be within or outside the coastal zone.

4.10.1 Environmental Setting

This environmental setting section focuses on the hazards related to radiological and hazardous materials associated with the Proposed Project.

The Proposed Project includes the Diablo Canyon Power Plant (DCPP), PBR, and the Santa Maria Valley Railyard – Betteravia Industrial Park (SMVR-SB). The 750-acre onshore portion of the DCPP site has no permanent residents. The nearest residential areas are in Avila Beach and Los Osos, which are located approximately 7 miles southeast and approximately 8 miles north of the DCPP site, respectively.

PBR is an approximately 25.5-acre site located approximately 0.3 mile from Highway 101 at 800 Price Canyon Road in the City of Pismo Beach. The PBR facility has undeveloped land to the north with a scattering of residences along Price Canyon Road; a Union Pacific Railroad line and open space to the east, with residential development further east; the City of Pismo Beach's waste-water treatment plant and public sports complex to the south; residences to the southwest and west; and a middle school, church, police station, and fire station to the west (west of Price Canyon Road).The SMVR-SB site is located approximately 1.6 miles west of the City of Santa Maria in the County of Santa Barbara at 2820 W. Betteravia Road. The site is approximately 28.4 acres, bordered to the north by Betteravia Road and agricultural processing uses (on the north side of Betteravia Road), on the west, south, and east by agricultural fields.

4.10.1.1 Hazardous Materials

The term hazardous material is defined by California Health and Safety Code (H&SC) Section 25501(n) and (o) as:

> *Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. 'Hazardous materials' include, but are not limited to, hazardous substances, hazardous wastes, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.*

Fuels, oils, lubricants, adhesives, and cleansers are all considered hazardous materials when they serve no useful purpose and become waste. The most common examples of the types of materials and wastes considered hazardous are hazardous chemicals defined by four characteristics: toxicity, ignitability, corrosivity, and reactivity. The characteristics of toxicity, ignitability, corrosivity, and reactivity are defined in California Code of Regulations (CCR) Title 22, sections 66261.20-66261.24. Hazardous materials concerns are related to the potential for fires, explosions, or the accidental exposure, acute inhalation or dermal contact with a hazardous material in the event of an unauthorized release, or unanticipated releases or spills to the surrounding environment.

DCPP is a large industrial facility that stores and uses many hazardous non-radiological materials for operation and maintenance. Hazardous chemicals include solvents, paints, cleaners, sealers, acids, hydraulic and motor oil, and diesel fuel. Many hazardous gases including argon, helium, butane, propane, freon, hydrogen/helium mix, nitrogen, methane, and oxygen are also stored on site. Mineral oil is also contained in electrical equipment for cooling of electrical transformer equipment. Several structures (building materials) onsite are known to contain asbestos and lead-based paint. Use of chemicals during operations may create hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) or California hazardous waste regulation and non-RCRA waste.

GeoTracker is the State Water Resources Control Board (SWRCB) data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. A review of the GeoTracker website indicates no listed hazardous material or contamination data for the subject site or any site within 3 miles of the DCPP (SWRCB, 2022a).

A review of the Department of Toxic Substances Control (DTSC) EnviroStor website indicates that on November 3, 2021, and December 7, 2021, the DTSC conducted a Compliance Evaluation Inspection and Financial Responsibility Review of PG&E/Diablo Canyon. The DTSC did not discover any Class I or Class II violations of the Hazardous Waste Control Law and its implementing regulations during this inspection; however, a Minor violation was noted. A review of the manifests received and uploaded to the DTSC hazardous waste tracking system (HWTS) database indicates DCPP failed to send the generator copy of the manifest to DTSC as required in CCR Title 22, sections 66262.21 (f) and 66262.23(a)(4). DTSC received the manifest copies from

the final designated facility for these manifests but not the generator copies from DCPP. DCPP resolved this violation on December 23, 2021. (DTSC, 2022a)

Hazardous material categories associated with routine operation of DCPP include nine classifications, which are provided in Table 4.10-1 with examples, uses, and potential hazards.

Table 4.10-1 DCPP Hazardous Materials Summary

Substance	Examples	Typical Use(s)	Hazard(s)
Solvents	Alcohol, ether, toluene, hexane, trichloroethylene	Lab chemicals, paint removers, and degreasers	Flammable, some explosive; toxic; damage to skin and respiratory tract; systemic damage to liver, kidneys nervous system, etc.
Oxidizers	Boric, chromic, permanganic, sulfuric acids, silver nitrate, potassium dicholorate, ammonium persulfate	Lab chemicals	Stimulates combustion of organic materials
Compressed Gases	Methane, oxygen, and nitrogen	Labs, welding, and maintenance	Flammable, some explosive (with potential for propellant effect) and some toxic
Corrosives	Boric, chromic, dipicolinic, oxalic, permanganic, sulfuric acids, sodium hydroxide, and ammonium hydroxide	Lab chemicals, cleaning agents, paints, paint thinners, and freon	Dermal contact (damage to skin, eyes and respiratory tract); some react to produce fire, explosion, or toxic fumes
Reactives	Lithium hydroxide, alkyl metals (sodium, potassium), and hydrides	*pH* Balancing	Explosive (with or without deto-nation); toxic fumes; explodes with exposure to water
Toxics	Metals, chlorinated hydrocarbons (solvents)	Lab chemicals, biocides, pesticides, dyes, and paints	Potential for acute or chronic systemic damage or death, cancer, infertility, birth defects
Radioactivity	Radionuclides (radioisotopes), uranium	Reactor	Potential for acute or chronic systemic damage, cancer, infertility, birth defects
Fuels	Gasoline, diesel, and waste oil, lubricants	Vehicles, Generators, Machinery	Flammable, explosive; toxic; dermal contact (damage to skin), eyes, and respiratory tract

Source: PG&E, 2021c.

The PBR site is a PG&E-owned material and equipment storage facility located at 800 Price Canyon Road within the City of Pismo Beach. The site would be used as a contingency site for the transport of non-radiological hazardous materials by rail. A review of the SWRCB GeoTracker website indicates no listed hazardous material or contamination data for the subject site (SWRCB, 2022c).

A review of the DTSC EnviroStor website indicates that the Army Recreation Camp (approximately 1.2 miles south of the PBR site) was used as a recreation camp for soldiers from surrounding army camps. Records show it was operated from 1942 until 1945. There is no evidence of any hazardous substance release, and the property has been developed with residential uses ever since. DTSC has determined that no further action is required. (DTSC, 2022b).

Past uses at the SMVR-SB site include use by the Santa Maria Valley Railroad as a railyard and as a sugar factory owned by the Union Sugar Factory Company. The site still contains rail lines and some structures that were used by the sugar factory. The SMVR-SB site is generally surrounded by agricultural properties. A review of the SWRCB GeoTracker website indicates no listed hazardous material or contamination data for the subject site. A case closed leaking underground tank (LUST) site is listed north across the road; the site is listed at Betteravia By-Products and is listed as having gasoline impacted soil that was cleaned up via excavation and was listed as case closed in 1990. (SWRCB, 2022b). The SMVR-SB site would be used to ship radioactive and non-radioactive waste. No other waste or hazardous material would be used or stored at the site as part of the Proposed Project.

4.10.1.2 Radiological Materials

DCPP has an NRC approved and licensed ISFSI, Materials License No. SNM-2511, which describes the methods and procedures implemented to protect workers, the public, and the environment from potential radiological hazards associated with the storage of SNF. The ISFSI license expires on March 22, 2024. On March 9, 2022, PG&E applied for an amendment to renew its ISFSI license for an additional 40 years beyond the current expiration date. A GTCC Waste Storage Facility would be built as part of the Proposed Project; this facility would be separate from the ISFSI and require additional NRC licensing and permitting actions (PG&E, 2022a). The ISFSI and GTCC Waste Storage Facility are to remain on site until or unless the DOE takes possession of the SNF and GTCC waste. Once the SNF and the GTCC waste are removed from the site or sent to a CISF, the ISFSI and GTCC Waste Storage Facility would undergo a separate decommissioning process to achieve final clean-up criteria established for them. No decommissioning of the ISFSI and/or GTCC Waste Storage Facility decommissioning are part of the Proposed Project.

This EIR discusses both the status of radiological hazards and the anticipated impacts of future decommissioning activities associated with the Proposed Project, which are expected to begin in 2024. Because the construction methods and procedures PG&E plans to use during decommissioning are based on standard industry practices, the assessment of the activities are bounded by the scope of the NRC's Generic Environmental Impact Statement (GEIS) analysis documents, which are contained in NRC technical reports NUREG-0586 (NRC, 2002b) and NUREG-2157 (NRC, 2014). The technical scope and approach to decommissioning are described in the PSDAR, Revision 1 (PG&E, 2022a) and this EIR's Project Description (see Section 2, *Project Description (Phases 1 and 2)*). PG&E has an obligation to provide the NRC notification of significant changes as required by 10 CFR 50.82 (a)(7) and 10 CFR 50.54 (bb).

As noted above, Appendix G1 of this EIR summarizes the management, storage, transportation, and disposal of SNF and high-level radioactive waste (HLW) associated with the decommissioning of DCPP, including on-site storage and off-site transport and disposal. Appendix G1 also includes information on recent activity related to the approval of potential commercial CISFs in the United States. Appendix G2 provides general background information on transportation of SNF, HLW, and radioactive materials, and the associated risks and industry experience. Appendix G3 summarizes the potential environmental impacts of stored SNF based on the NRC (2014) GEIS. Appendix G4, entitled *Radiation Basics* includes a discussion of background information and terminology about both natural and man-made sources of radiation, and their risks to people and

the environment. Appendix G5 describes the US Department of Transportation (DOT) approach and oversight of the regulation of radioactive materials.

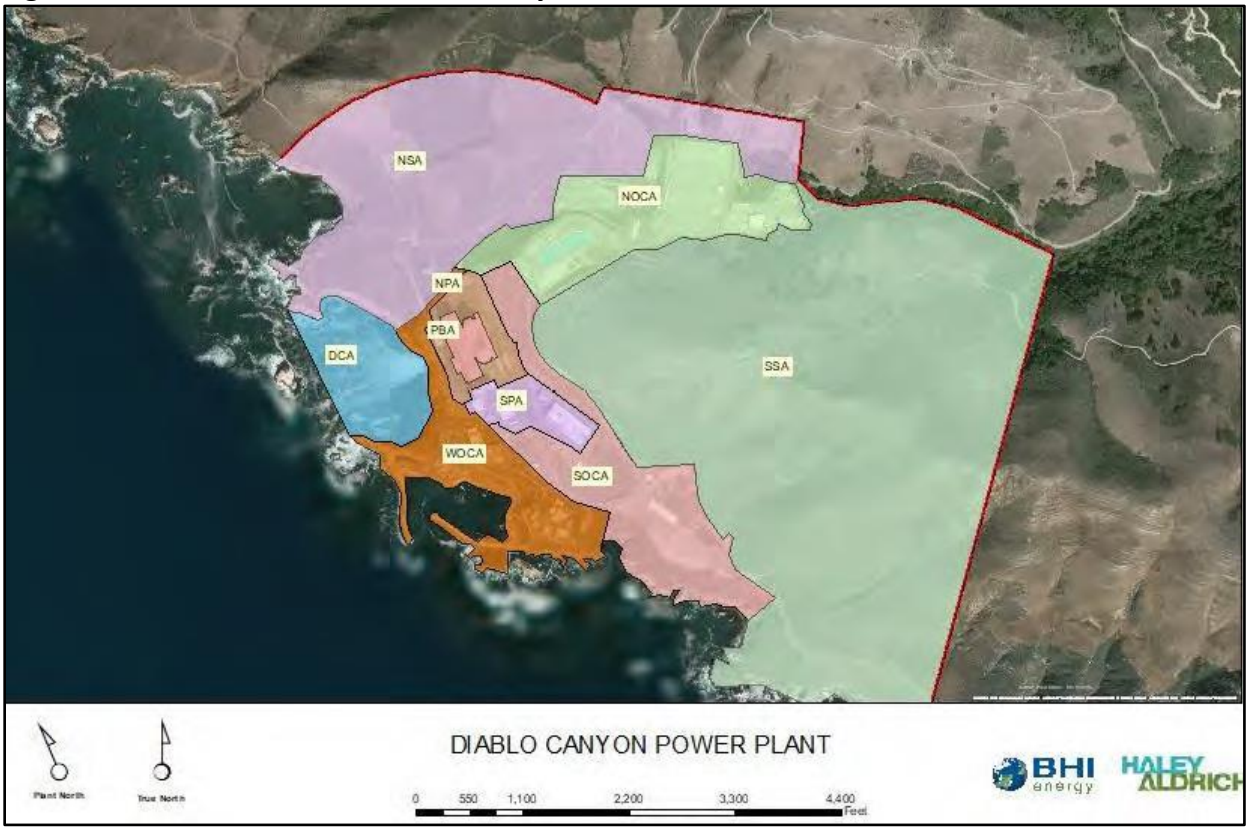
4.10.1.2.1 Nature and Extent of Known or Suspected Radiological Contamination at DCPP

As described in PG&E's Site Characterization Study (PG&E, 2018b), the DCPP site was divided into 9 zones or study areas as a convenient geographic framework for characterizing radiological contamination and for tracking and documenting the decontamination and dismantling of facilities. Table 4.10-2 presents the names and acronyms of the various areas, and Figure 4.10-1 shows their location and orientation within the DCPP site boundary.

Table 4.10-2. DCPP Site Characterization Study Area Designations

Study Area	Acronym
Power Block Area	PBA
South Protected Area	SPA
North Protected Area	NPA
South Owner Controlled Area	SOCA
West Owner Controlled Area	WOCA
North Owner Controlled Area	NOCA
Discharge Cove Area	DCA
North Site Area	NSA
South Site Area	SSA

Figure 4.10-1. Site Characterization Study Zones



Source: PG&E, 2021c - Figure 3.8-1.

Tables 4.10-3 and 4.10-4 below provide details about the facilities, structures and systems that are known to be or are potentially contaminated. Most radiological decontamination would occur during the Building Demolition portion within Phase 1 of the Proposed Project (PG&E, 2022a, PG&E, 2021c). PG&E has proposed to divide the Building Demolition activities into multiple sub-activities (PG&E, 2021c) that are described individually in this EIR (sections noted), including (but not limited to):

- Section 2.3.5, *System and Area Closure*
- Section 2.3.8, *Decontamination*
- Section 2.3.9, *Building Demolition*
- Section 2.3.10, *Reactor Pressure Vessel and Internals Removal and Disposal*
- Section 2.3.11, *Large Component Removal*
- Section 2.3.12, *Utilities, Remaining Structures, Roads, and Parking Areas Demolition*

Building Demolition involves decontamination, dismantlement, and removal of contaminated and potentially contaminated above-ground and below-grade facilities and structures, which would be transported to a permitted disposal facility. Examples of such facilities and activities include the segmentation and removal of the Units 1 and 2 reactor pressure vessels, decontamination and demolition of the fuel handling building, turbine building, containment buildings, auxiliary buildings, discharge structure, and various support buildings.

In addition to the actual demolition construction activities, Phase 1 of the Proposed Project includes extensive sampling and analytical work to ensure that the nature and extent of radiological contamination is well understood. Section 2.3.7, *Site Characterization Study,* describes the initial survey results with the survey plan incorporated as an attachment to the Study to characterize contamination. As the Proposed Project proceeds, further partial surveys would be utilized to characterize areas that have not been sampled, or are not currently accessible, and document the final decontamination of contaminated areas. During the Building Demolition phase, site restoration activities would also be performed on portions of the site outside of the lSFSI area (PG&E, 2022a). All work products would be submitted to the NRC for review and acceptance.

To begin the process of identifying in detail where contaminated facilities, structures, and other materials such as soil or groundwater were likely to be present, PG&E prepared the preliminary DCPP Site Characterization Study (PG&E, 2018b), which analyzed both radiological and non-radiological hazards at the site. Attachment 1 to the preliminary DCPP Site Characterization Study is the Historical Site Assessment (HSA) Report, which summarizes current knowledge of the nature and extent of both radiological and hazardous material contamination and identifies potential gaps in radiological data at the site (PG&E, 2018b). The DCPP Site Characterization Plan (Plan) was also included as Attachment 2 to the preliminary DCPP Site Characterization Study (PG&E, 2018b), and proposes the objectives, Data Quality Objectives (DQOs), decision criteria, methodology, and investigation process for future radiological sampling and site characterization activities during and after decommissioning. This Plan was designed to ensure that radiological data adequate to comply with all NRC regulatory requirements would be collected during and after decommissioning activities, and to demonstrate that the decommissioned site would meet all cleanup standards. Future site characterization activities necessary to support the Final Status Surveys (FSS) are expected to begin in 2024.

The SCS would be carried out in two steps. Step 1 would be a limited characterization of the East Canyon Area to support site infrastructure improvements to be carried out in 2024, including construction of the new Security Building and GTCC Waste Storage Facility. The East Canyon Area would remain an operating industrial area subject to at least one Part 72 NRC License (related to ongoing ISFSI and GTCC Waste Storage Facility operations). As such, the site characterization and any required remediation in this area would focus on management of soils disturbed by infrastructure construction activities and protection of future site occupants.

Step 2 would be initiated in 2024 (after the shutdown of Unit 1) to determine the areas and extent of chemical and radiological contamination at the DCPP site and its structures, including all sumps, drains, and pits and any accumulated debris, prior to removal and shipment for off-site disposal. This study cannot be initiated sooner as there is a possibility of soil contamination occurring during DCPP operations, which would alter the baseline established by the SCS.

From a radiological perspective, the HSA determined that significant gaps in historical and current information, and sampling data, limit the ability to present a comprehensive or conclusive understanding of the radiological status of several of the potentially impacted structures and open land areas. As a result, additional site characterization is required. Both the HSA and the preliminary DCPP Site Characterization Plan were developed in accordance with standards established in the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) (NRC, 2000 and NRC 2020a). As required by MARSSIM, the HSA:

- Identified potential, likely, or known sources of radioactive material and radioactive contamination based on existing or derived information
- Identified sites that need further action as opposed to those posing no threat to human health
- Provided an assessment for the likelihood of contaminant migration
- Provided information useful to scoping and characterization surveys
- Provided an initial classification of the site or survey units as impacted or non-impacted.

During the HSA process, information was collected to categorize the site or areas within the site as impacted or non-impacted and to make preliminary site classification assessments. If an area is impacted, MARSSIM provides criteria to classify potentially radiologically contaminated areas according to their level of risk or hazard. Class 1 areas, prior to remediation, are impacted areas with concentrations of residual radioactivity that likely exceed regulatory limits. Class 2 areas are impacted areas where concentrations of residual activity that exceed the limits are not expected. Class 3 areas are impacted areas that have a low probability of containing areas with residual radioactivity. Detailed definitions are found in MARSSIM (NRC, 2000).

The results of the HSA relevant to radiological contamination and hazards at DCPP site are summarized in Table 4.10-3. The table also provides information about areas that have been impacted and PG&E's preliminary MARSSIM classification; which structures are to be removed or are involved (buildings, concrete, pavement, or tanks); and whether sediment, air emissions, wells, or surface water (e.g., Diablo Creek) are present or involved.

Buildings and structures categorized as non-impacted in Tables 4.10-2 and 4.10-3 which are scheduled for demolition are considered non-radiological decommissioning waste material (i.e., not contaminated with radiological material).

The HSA provided a preliminary assessment for multiple MARSSIM Class 1 and 3 areas, although it did not identify what the proposed release criteria would be. The release criteria are known as Derived Concentration Guideline Levels (DCGLs): according to PG&E (PG&E, 2021d), DCGLs would be developed for a Resident Farmer scenario. DCGLs are an integral part of the site classification process, and the process for developing them has not yet been completed. DCGLs would be developed as part of a final Site Characterization Plan to be prepared prior to the initiation of Building Demolition activities. NRC would conduct a review of the DCGLs and require adjustments if needed (NRC, 2022a). The final Site Characterization Plan would also include plans for sample collection for characterization and for closure of the data gaps identified in the HSA. Numerous radiological surveys remain to be performed, particularly in areas that cannot be accessed until reactor operations are shutdown and other buildings and SSCs are removed.

The HSA did not identify any MARSSIM Class 2 survey units. Examples of areas that might be classified as Class 2 for the final status survey are found in MARSSIM (NRC, 2000, p. 2-5) and include: (1) locations where radioactive materials were present in an unsealed form, (2) potentially contaminated transport routes, (3) areas downwind from stack release points, (4) upper walls and ceilings of buildings or rooms subjected to airborne radioactivity, (5) areas handling low concentrations of radioactive materials, and (6) areas on the perimeter of former contamination control areas. The Learning Center/Maintenance Shop (see Figure 2-8, Building 119) Rooms 123 and 239, located within the Owner Controlled Area, and the Intake Area, are examples of areas that are currently identified as Class 3 that could ultimately become Class 2 upon survey and DCGL establishment.

Because PG&E's preliminary assessments are incomplete, and because conditions in the field may change from on-going reactor related operations, the planned future Site Characterization Study would provide supplementary data to update the preliminary classifications. Decommissioning activities may also change the environment enough to require a different classification from the preliminary ones. The radiological characterization activities described in the Site Characterization Study would be conducted in accordance with MARSSIM with physical sampling and analysis after Units 1 and 2 are shut down (PG&E, 2022a).

Table 4.10-4 identifies the potential radiologically impacted areas (i.e., areas that likely are, or could be radiologically contaminated) at the DCPP site and the anticipated Radionuclides of Concern (ROCs) based on current knowledge. The Project Description (Sections 2.3.8 through 2.3.12) contains summary descriptions of the methods and techniques to be utilized. Most of the methods and techniques are industry standard measures utilized on numerous nuclear reactor decommissioning projects in the past several decades.[24] However, where available and appropriate, innovative newer technologies may be employed if shown to improve the effectiveness and efficiency of decontamination technologies or decrease the risks to workers and the public.

[24] NRC consensus standards are identified on their website site: https://www.nrc.gov/about-nrc/regulatory/standards-dev/consensus.html. Details on industry decommissioning practices may be found on the NRC decommissioning lessons learned website: https://www.nrc.gov/waste/decommissioning/lessons-learned.html. The website refers to additional references and the Nuclear Energy Institute regarding potential lessons learned from past decommissioning actions: https://www.nrc.gov/docs/ML0604/ML060470473.pdf.

Table 4.10-3. Results of DCPP HSA[1]

Study Areas	Impacted	MARSSIM Class	To Be Removed	Buildings	Storage Tanks	Soil	Concrete	Pavement	Sediment	Air Effluent	Wells	Creek
North Owner Controlled Area (NOCA)												
Old Steam Generator Storage Facility (OSGSF)	Yes	3				X		X	X			X
Waste Holding and Treatment (WHAT) System Facility	Yes		X	X	X			X				X
Independent Spent Fuel Storage Installation (ISFSI) and the GTCC Waste Storage Facility	Yes	To remain until transfer of high-level wastes[3]										
Raw Water System, Switchyards, Secondary FLEX Storage Area and Outbuildings	No											
Tri-Bar Flats Area, Scaffold Laydown Area and Spoils Area	Yes	3				X	X		X			X
Open Land Areas	Yes	3										X
South Owner Controlled Area (SOCA)												
Parking Lot 1 and Vicinity	Yes	3				X	X					
Warehouse B (Building 113) at radioactive material storage area & building exterior	Yes		X				X					
Parking Lots 6, 7, 8, and Roadways	Yes	3		X		X	X	X				
Unpaved Open Land Areas	Yes	3				X						
West Owner Controlled Area WOCA)												
Area 10 – Parking Lot 10	Yes	3	X			X				X		
Training and Maintentance Shop Buildings, Rooms 123 & 239, building exterior, Parking Lots 2/4a/4b/5	Yes	3				X	X	X				
Intake Area	Yes	3				X	X	X		X		
Diablo Canyon Creek Area	Yes	3										
Discharge Cove Area (DCA)	Yes	3										
North Protected Area (NPA)												
Warehouse A and Adjacent Buildings	Yes	1 for soil	X	X		X						
115-Foot Elevation Radiological Control Area	Yes	1 for soil	X			X						
North and South Pavement Areas	Yes	3				X	X	X				

Table 4.10-3. Results of DCPP HSA[1]

Study Areas	Impacted	MARSSIM Class	To Be Removed	Buildings	Storage Tanks	Soil	Concrete	Pavement	Sediment	Air Effluent	Wells	Creek
Unit 1 and 2 Condensate Polishing System Sumps	Yes		X									
Monitoring Wells and Building 102	Yes										X	
West Paved Area	Yes	1	X			X	X					
South Protected Area (SPA)												
Administration, Security, Liquid Storage, and Temporary Office Buildings	Yes	1	X	X		X						
DCPP Main Warehouse	Yes	1	X	X								
Cold Machine Shop	Yes	1	X	X		X						
Open Land Area	Yes	1				X						
Power Block Area (PBA)												
Unit 1 & Unit 2 Containment Buildings	Yes	1	X	X								
Unit 1 and Unit 2 Fuel Handling Buildings	Yes	1	X	X								
Auxiliary Building	Yes	1	X	X								
Turbine Building	Yes	1	X	X								
North Site Area (NSA)	No											
South Site Area (SSA) [2]	No											

Source: PG&E, 2018b – Table 7.1-1; PG&E, 2022a; PG&E, 2021c – Table 3.8-2.
Acronyms: NOCA = North Owner Controlled Area; OSGSF = Old Steam Generator Storage Facility (OSGSF); WHAT = Waste Holding and Treatment; GTCC = Grater than Class C; ISFSI = Independent Spent Fuel Storage Installation, SOCA = South Owner Controlled Area; WOCA = West Owner Controlled Area; DCA = Discharge Cove Area; NPA = North Protected Area; SPA = South Protected Area; PBA = Power Block Area.
[1] An "X" indicates the presence or involvement of this item
[2] Considered by HSA as non-impacted but part is down wind of release stack
[3] Transfer of fuel is not part of the Proposed Project and won't occur until a repository has been constructed by the federal government or a CISF is authorized/approved.

Table 4.10-4. Summary of Potentially Radiologically Impacted Areas with ROCs

Study Area	Location Within Area	Classification	Potential Radionuclides of Concern[1]
NOCA	Old Steam Generator Storage Facility	Impacted	H-3, Co-60, Cs-137, Cs-134, Sr-90, Ni-63, Fe-55, Tc-99
	Waste Holding and Treatment (WHAT) System Facility	Impacted	Co-60, Cs-134, Cs-137, H-3, Fe-55, Ni-63, Sr-90, Tc-99
	Independent Spent Fuel Storage Installation	Impacted	To remain until DOE accepts waste[2]
	Raw Water System, Switchyards, Secondary FLEX Storage Area and Outbuildings	Non-impacted	Not applicable
	Tri-Bar Flats Area, Scaffold Laydown Area and Spoils Area	Impacted	Co-60, Cs-134, Cs-137, H-3, Fe-55, Ni-63, Sr-90, Tc-99
	Open Land Areas	Impacted	Co-60, Cs-134, Cs-137, H-3, Fe-55, Ni-63, Sr-90, Tc-99
SOCA	Parking Lot 1 and Vicinity	Impacted	H-3, C-14, Sr-90. Ni-63, Co-60, Cs-137
	Warehouse B (Building 113)		
	● Interior radioactive material storage	Impacted	H-3, C-14, Sr-90. Ni-63, Cs-137
	● Remaining building interior	Non-impacted	Not applicable
	● Building exterior	Impacted	H-3, C-14, Co-60
	Parking Lots 6, 7, 8, and Roadways	Impacted	H-3, C-14, Sr-90. Ni-63, Co-60, Cs-137
	Unpaved Open Land Areas	Impacted	H-3, C-14, Co-60
WOCA	Area 10 – Parking Lot 3	Impacted	H-3, C-14, Sr-90. Ni-63, Co-60, Cs-137
	Learning Center/Maintenance Shop (Building 119):		
	● Rooms 123 and 239	Impacted	Radioactive check sources[3]: Eu-152, Eu-154, Cs-137, Co-60, Ba-133, Sr/Y-90, H-3, C-14, Th-230
	● Remaining Building Interior	Non-impacted	Not applicable
	● Building Exterior	Impacted	H-3, C-14, Co-60
	Parking Lots 2/4a/4b/5	Impacted	H-3, C-14, Co-60
	Intake Area	Impacted	H-3, C-14, Co-60
	Diablo Canyon Creek Area	Impacted	H-3, C-14, Sr-90, Ni-63, Co-60, Cs-137
DCA	Unit 1 and Unit 2 Discharge Structure	Impacted	Co-60, Sb-125, Cs-134, Cs-137, H-3, C-14, Sr-90
NPA	Warehouse A	Impacted	Co-60, Cs-134, Cs-137, H-3, Fe-55, Ni-63, Sr-90, Tc-99
	115-Foot Elevation Radiologically Controlled Area (RCA)	Impacted	Co-60, Cs-134, Cs-137, H-3, Fe-55, Ni-63, Sr-90, Tc-99
	Pavement Areas	Impacted	Co-60, Cs-134, Cs-137, H-3, Fe-55, Ni-63, Sr-90, Tc-99
	Unit 1 and 2 Condensate Polishing System Sumps	Impacted	Co-60, Cs-134, Cs-137, H-3, Fe-55, Ni-63, Sr-90, Tc-99
	Groundwater Monitoring Wells	Impacted	H-3

Table 4.10-4. Summary of Potentially Radiologically Impacted Areas with ROCs

Study Area	Location Within Area	Classification	Potential Radionuclides of Concern[1]
SPA	Administration, Security, Liquid Storage, and Temporary Office Buildings	Impacted	H-3, C-14, Co-60
	DCPP Main Warehouse	Impacted	H-3, C-14, Co-60
	Cold Machine Shop	Impacted	Co-60, Cs-134, Cs-137, H-3, Fe-55, Ni-63, Sr-90, Tc-99
	Open Land Area	Impacted	Co-60, Cs-134, Cs-137, H-3, Fe-55, Ni-63, Sr-90, Tc-99
Power Block Area [4]	Unit 1 and Unit 2 Containment Buildings	Impacted	No specific radionuclide identified.
	Unit 1 and Unit 2 Fuel Handling Buildings	Impacted	No specific radionuclide identified.
	Auxiliary Building	Impacted	No specific radionuclide identified.
	Turbine Building	Impacted	No specific radionuclide identified.
North Site Area [4]	All	Non-impacted	Not included in source table; not applicable.
South Site Area [4]	All	Non-impacted	Not included in source table; the southeast section might be in emissions pathway.

Source: PG&E, 2018b – Table 7.1-1; PG&E, 2022a; PG&E, 2021c – Table 3.8-2.
Acronyms: NOCA = North Owner Controlled Area; WHAT = Waste Holding and Treatment; SOCA = South Owner Controlled Area; WOCA = West Owner Controlled Area; DCA = Discharge Cove Area; NPA = North Protected Area; SPA = South Protected Area.
[1] Where Radionuclides of Concern are abbreviated by atomic symbol for each element as follows: Barium (Ba), Carbon(C), Cobalt (Co), Cesium (Cs), Europium (Eu), Iron (Fe), Tritium (H-3), Nickel (Ni), Technetium (Tc), Strontium (Sr), Yttrium (Y).
[2] Transfer of SNF offsite is not part of the Proposed Project and would not occur until a repository has been constructed by the federal government or a CISF is authorized/approved.
[3] Radioactive check sources were used to calibrate radiation monitoring equipment in these rooms and should not be present. The FSS would assure they have been removed.
[4] Areas were not listed in the PG&E CDP application package Table 3.8-2; added here for completeness.

4.10.1.2.2 Groundwater

In addition to the potentially contaminated buildings, structures, soils, and other materials identified in Tables 4.10-1 and 4.10-2, contamination of groundwater at DCPP, either during reactor operations or during decommissioning, is possible. This discussion overlaps, in part, with Section 4.11.1, *Surface Water and Groundwater Quality*. A Groundwater Protection Program is active at DCPP in accordance with the "Industry Groundwater Protection Initiative, Final Guidance Document" prepared by the Nuclear Energy Institute (NEI) and referred to as the NEI Groundwater Protection Initiative (NEI, 2019). This program is directed by procedures and would continue during decommissioning (PG&E, 2022a). Licensees that have implemented a groundwater monitoring program consistent with the NEI Groundwater Protection Initiative are considered by the NRC to have an adequate program for the purposes of groundwater protection (NRC, 2011).

Tritium monitoring in groundwater at DCPP began in 2006 as part of the Radiological Environmental Monitoring Program (PG&E, 2007a). Groundwater is sampled at several on-site wells, including Well #2. Results of the Radiological Environmental Monitoring Program are submitted to local, state, and federal agencies on an annual basis via the Annual Radiological Environmental Operating Report.

From 2006 through 2008, tritium was found to "wash-out" during rain events due to gaseous releases from the plant vents (direct rain collection and building downspouts). Tritium was found to concentrate in stagnant water due to diffusion in air from the plant vents and in condensation of air moisture in proximity to the DCPP vents. Subsequent monitoring consistently measured tritium levels in excess of the Lower Limit of Detection (400 picocuries per liter) within French drains beneath the DCPP power block (PG&E, 2020a). The low levels and the location of the tritium found in groundwater at DCPP do not indicate a leak from the spent fuel pools (SFPs) or any other plant equipment source of tritium. Instead, the low levels are consistent with minor tritium "wash-out" during rain events. The levels of tritium were all below the USEPA drinking water standard of 20,000 picocuries per liter (PG&E, 2007a).

PG&E DCPP Radiation Protection personnel undertook a review of the hydrogeologic environment and the potential threat to drinking water supplies. The only groundwater that is used for drinking water at the DCPP site is pumped from Well #2, located east of the DCPP site at a ground elevation of 333 feet above mean sea level (MSL). This is considerably higher than the ground elevation of the power blocks at 85 feet above MSL. Well #2 draws from an isolated source specific to Diablo Canyon that is replenished by flows through the alluvium. Potential releases of tritiated water from DCPP cannot lead to any drinking water source due to overall site hydrogeological characteristics, and the higher elevation of the aquifer replenishing the location tapped by the deep water well. A comparison of the static water level and the pumping water level of Well #2 and the power block wells showed that Well #2 could not draw water from the power block area, even during intensive pumping during drought conditions (ENTRIX, 2010). The DCPP Radiation Protection analysis conducted by PG&E concluded that DCPP site releases of tritiated water, should they occur, would not affect drinking water sources because there is no groundwater under the DCPP site that would lead to sources of drinking water. No plant-related tritium has been detected in drinking water. This groundwater flow discharges into the Pacific Ocean (PG&E, 2007a). The Annual Radiological Environmental Operating Report (AREOR) for the

years 2018 through 2020 (PG&E, 2019d; PG&E, 2020a; PG&E, 2021a) were reviewed for this EIR and these reports indicate no significant contaminant discharges into the Pacific Ocean.

Based on the above analyses and environmental staff evaluation, it was concluded that there is no potential for waters originating at the DCPP site to contaminate domestic water supplies regulated, owned, managed, or certified by state and local governmental bodies.

The PSDAR, Revision 1 notes that "Active groundwater remediation is not anticipated for DCPP, as groundwater monitoring has not identified tritium at the well [Well#2] that is used for a drinking water source (located up DC [Diablo Creek], away from the power block)," The PSDAR, Revision 1 continues: "Neither the monitoring results of the groundwater protection program nor events noted in the 10 CFR 50.75(g) files indicate the presence of long-lived radionuclides in sufficient concentrations following remediation as needed to preclude unrestricted release." (PG&E, 2022a).

PG&E plans to continue to maintain the existing radiological decommissioning records program related to groundwater monitoring required by 10 CFR 50.75(g) (PG&E, 2022a).

4.10.1.2.3 Waste Management Activities

A major component of the decommissioning work scope for the Proposed Project involves the packaging, transportation, and disposal of contaminated/activated equipment, piping, concrete, and in some cases soil. Demolition methods and handling techniques are selected to minimize cross-contamination of clean materials with those required to be disposed of as wastes. To minimize cross-contamination with clean materials, the clean materials are removed first prior to building demolition if it is to be reused, recycled, or repurposed and segregated from the transportation and storage areas used for radiological or hazardous/regulated materials. Any mixed wastes (hazardous and radioactive) identified during decommissioning would be managed in accordance with applicable federal and state regulations. Mixed wastes from DCPP would be transported by licensed transporters and shipped to authorized and licensed facilities (PG&E, 2022a). Of note at the state level, Executive Order No. D-62-02 issued by Governor Davis in 2002 (California Office of Governor, 2002) applies to the Proposed Project as it:

- Directed the nine California Regional Water Quality Control Boards (RWQCBs) to impose a moratorium on the disposal of decommissioning waste materials into Class III and unclassified waste management units until the California Department of Health Services completed an assessment of the public health and environmental safety risks associated with the disposal of decommissioned materials and until its regulations setting dose standards for decommissioning take effect. A Class III landfill accepts non-hazardous resources such as household, commercial, and industrial waste, resulting from construction, remodeling, repair, and demolition operations. A Class III landfill must have a solid waste facility permit from the State of California and be regulated by an Enforcement Agency (Cal. Code Regs. Tit. 27, § 20260 - SWRCB - Class III: Landfills for Nonhazardous Solid Waste. (C15: s2533)
- Required the moratorium be implemented via cleanup and abatement orders issued by each RWQCB: the Central Coast RWQCB issued Cleanup and Abatement Order No. R3-2002-0130 on October 11, 2002, which places a moratorium on the acceptance of "Decommissioned Materials" by landfills (RWQCB, 2002).

As such, radiological waste from decommissioning cannot be disposed of within California. Radiological waste from the Proposed Project can be accepted at three licensed facilities for disposal in the United States: Clive Disposal Facility (currently operated by Energy*Solutions*) in Clive, Utah; Waste Control Specialists, LLC in Andrews, Texas; and US Ecology in Grand View, Idaho. Each of these facilities can receive different types of radiological materials and a waste management plan has been developed by PG&E to incorporate the most cost-effective disposal strategy, consistent with regulatory requirements and disposal/processing options for each waste type (PG&E, 2022a). PG&E's disposal plans for Class A, B, and C waste associated with the Proposed Project are only partially provided due to security redactions in Table 4-3 of the Site-Specific Decommissioning Cost Estimate (PG&E, 2019c).

Based on recent advancements reported by PG&E in the development and licensing of Type B transportation casks, which are required to support transport of these waste materials, it is expected that on-site storage of waste materials would not be required for the purpose of allowing for radioactive decay. However, it is expected that transportation cycle delays may occur. Therefore, it is anticipated that Class A, B, and C waste materials generated during decommissioning could be stored on site for between 1 week to 1 year (PG&E, 2021d). Important Proposed Project activities associated with transporting hazardous material include:

- Waste would be hauled by truck to the Santa Maria Valley Railyard Facility (SMVR) site located in Santa Barbara County (SMVR-SB). Waste would then be transported out-of-state via rail for disposal. Some material would be shipped by truck directly to the disposal facilities due to either the size, waste type, packaging needs, or if the disposal facility does not have a rail spur. Examples of material to be shipped directly by truck include large components, some reactor pressure vessel (RPV) and internals waste, and other regulated material.
- Rail and truck transport would be utilized during the transport of highly regulated materials, such as Class B and C Low-Level Radioactive Waste (LLRW), and during Project timeframes when not enough waste is generated to support large volume barge shipments.
- Barges would be loaded from the Intake Structure area for waste transportation using a mobile crane.

DCPP has gaseous and solid waste processing systems that are designed to collect and process radioactive waste so that both on-site and off-site exposures are kept within the dose design objectives of 10 CFR Part 50, Appendix I, and within the limits as defined by 10 CFR Parts 20 and 100. DCPP intends for these waste treatment processes to continue during decommissioning for as long as needed (PG&E, 2021c). DCPP would continue to have gaseous and liquid effluents from maintaining SFP operations until SNF is transferred to the ISFSI, and the wet storage systems are decommissioned. The SFPs are in the fuel handling building which encloses the two fuel handling areas of Unit 1 and Unit 2 and is a shared structure (PG&E, 2019b). The radioactive waste treatment effluent processes are discussed in Section 2.3.20, *Water Management, including Management of the Seawater Reverse Osmosis Facility and Liquid Radioactive Waste*.

4.10.1.2.4 Radioactive Waste Liquid Treatment Processes

The water management approach for decommissioning is based on the National Pollution Discharge Elimination Permit (NPDES) Permit CAA0003751 issued for DCPP power operations.

PG&E plans to use similar areas for ocean intake and wastewater discharges as used for existing DCPP operations (see Figure 2-32).

Immediately following shutdown, cooling for the SNF in the SFPs would continue. In addition, freshwater production and wastewater disposal would need to continue to support decommissioning activities. Existing plant equipment would be used as much as practical while the site transitions into decommissioning. During this time, PG&E plans to discharge the wastewater inventories with appropriate dilution that are remaining from plant operations.

PG&E plans to use water sprayers for dust suppression during Building Demolition activities, as well as for contamination control (PG&E, 2021d). Any runoff from these dust suppression measures would be captured by a groundwater collection and treatment system (GWTS) prior to release. The GWTS would be developed in the early stages of decommissioning and utilized to collect and process water accumulated in open excavations from direct rainfall and groundwater intrusion utilizing a combination of settling ponds and tanks or filtration equipment. As described in Section 2.3.9, *Building Demolition,* and Section 2.3.17, *Stormwater Management*, treated water would be discharged according to allowable discharge concentrations according to the Central Coast Regional Water Quality Control Board. PG&E would also apply for a Construction Stormwater General Permit and prepare a Stormwater Pollution Prevention Plan prior to start of construction activities to address the requirements for control of fugitive dust emissions from the DCPP site.

Inventories of liquid radiological waste (LRW) would be processed during decommissioning (see Section 2.3.20 *Water Management, including Management of the Seawater Reverse Osmosis Facility and Liquid Radioactive Waste*). In the early stages of decommissioning, much of this inventory would be collected, processed, and monitored by the existing plant equipment. While the auxiliary saltwater pumps are in operation, systems containing LRW would be drained to the LRW processing system, and ultimately flow into the ocean. The levels of radioactive material that can be filtered out would be below the levels that have been approved to be discharged into the ocean during plant operations. As tritium cannot be removed through conventional treatment methods, the auxiliary saltwater system would be used to dilute the tritium concentration in the effluent prior to discharge.

4.10.1.2.5 Radioactive Waste Gaseous Effluent Treatment Processes

During operations, DCPP ventilation systems discharge through the plant vent stack, located on top of the containment building. The plant vent stack is the primary source of gaseous effluents, which exposes the exterior surfaces of plant buildings, including the concrete containment building, to radioactive gasses. The primary radionuclide of concern is tritium and to a lesser extent carbon-14 (C-14) which is not expected to washout or deposit on building surfaces as much. The extent of the tritium contamination on the exterior concrete surface of the containment building was not determined during the preparation of the HSA (PG&E, 2018c). There are two discharge points other than the plant vent stacks: (1) the exhaust vent from the primary chemistry lab and (2) the exhaust vent from the post-accident sampling system. The nearest "inhabited" structure is a small trailer used only by DCPP employees located about 1.93 kilometers (1.2 miles) northwest of the plant.

Information obtained during interviews with radiation protection staff at DCPP indicates that water from the Auxiliary Building roof gutters can contain high concentrations of tritium (approximately 800,000 pCi/liter) due to deposition from gaseous effluent on roof top surfaces. Roof top surfaces of the other buildings in the Power Block Area may have similar concentrations of tritium due to deposition from gaseous effluent (PG&E, 2018c).

All buildings in the South Protected Area are located close to the plant vent stacks where tritium and C-14 are/have been released. Condensate from air conditioning units associated with all the buildings in the area discharge directly to the ground. Radionuclides (tritium and C-14) entrained in the condensate would have been released to the ground (PG&E, 2018c). The DCPP 2020 Annual Radioactive Effluent Release Report indicates that a major contributor to gaseous tritium activity is evaporation from the SFPs and that doses associated with plant effluent releases were much less than the respective technical specification limits (PG&E, 2021b).

4.10.2 Regulatory Setting

4.10.2.1 Hazardous Materials

The primary federal and state laws, regulations, and policies that are applicable to the Proposed Project are summarized in Appendix C. See also Appendices G2 and G5, which provide information related to the regulation of packaging and transport of hazardous and radiological materials. Relevant regional and local laws, regulations, and policies are presented below.

State

California Environmental Protection Agency. The California Environmental Protection Agency (Cal-EPA) was created in 1991. It centralized California's environmental authority, consolidating the Air Resources Board, SWRCB, Department of Resources Recycling and Recovery (CalRecycle, formerly Integrated Waste Management Board), DTSC, Office of Environmental Health Hazard Assessment, and Department of Pesticide Regulation under one agency. These agencies were placed within the Cal-EPA and a cabinet-level advocate was established for the protection of human health and the environment and to ensure the coordinated deployment of State resources. Cal-EPA's mission is to restore, protect and enhance the environment, and to ensure public health, environmental quality, and economic vitality. The Department of Pesticide Regulation, DTSC, CalRecycle, and SWRCB regulate hazardous materials and hazardous waste that have the potential to cause soil, water, and groundwater contamination, and their missions are summarized below.

- **Department of Toxic Substances Control.** The DTSC mission is to restore, protect, and enhance the environment, and to ensure public health, environmental quality, and economic vitality by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.
- **CalRecycle.** The mission of the CalRecycle is to protect the public health and safety and the environment through waste prevention, waste diversion, and safe waste processing and disposal.

- **State Water Resources Control Board.** The SWRCB mission is to preserve and enhance the quality of California's water resources and ensure their proper allocation and efficient use for the benefit of present and future generations.

California Office of Emergency Services. To protect the public health and safety and the environment, the California Office of Emergency Services establishes and manages statewide standards for business and area plans relating to the handling and release or threatened release of hazardous materials. Basic information on the location, type, quantity, and the health risks of hazardous materials handled, used, stored, or disposed of in the State, which could be accidentally released into the environment, needs to be made available to firefighters, health officials, planners, public safety officers, health care providers, regulatory agencies, and other interested parties. The information provided by businesses and area plans is necessary to prevent or mitigate the damage to the health and safety of persons and the environment from the release or threatened release of hazardous materials into the workplace and environment. These regulations are covered under Chapter 6.95 of the California Health and Safety Code Article 1 – Hazardous Materials Release Response and Inventory Program (Sections 25500-25520), and Article 2 – Hazardous Materials Management (Sections 25531-25543.3).

CCR Title 19, Public Safety, Division 2, Office of Emergency Services, Chapter 4 – Hazardous Material Release Reporting, Inventory, And Response Plans, Article 4 (Minimum Standards for Business Plans) establishes minimum statewide standards for Hazardous Materials Business Plans. These plans shall include the following: (1) a hazardous material inventory in accordance with Sections 2729.2 - 2729.7, (2) emergency response plans and procedures in accordance with Section 2731, and (3) training program information in accordance with Section 2732. Business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the State. Each business shall prepare a Hazardous Materials Business Plan if that business uses, handles, or stores a hazardous material or an extremely hazardous material in quantities greater than or equal to the following:

- 500 pounds of a solid substance,
- 55 gallons of a liquid,
- 200 cubic feet of compressed gas,
- hazardous compressed gas in any amount, and/or
- hazardous waste in any quantity.

California Occupational Safety and Health Administration. The California Occupational Safety and Health Administration (Cal-OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal-OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (CCR Title 8 Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

CCR, Title 8, Chapter 4, Subchapter 7, Group 14 and 15, and Group 16, Articles 107, 109, and 110 sets forth the Permissible Exposure Limit, the exposure, inhalation or dermal permissible exposure limit for numerous chemicals. Included are chemicals, mixture of chemicals, or pathogens for which there is statistically significant evidence, based on at least one study conducted in

accordance with established scientific principles, that acute or chronic health effects may occur in exposed employees.

It is the responsibility of Cal-OSHA to ensure compliance with the provisions of the Hazard Communication Standard. California Labor Code Sections 6360 through 6399.7 and CCR Title 8 Sections 5191 and 5194 are intended to ensure that both employers and employees understand how to identify potentially hazardous substances in the workplace, understand the health hazards associated with these chemicals, and follow safe work practices. This is accomplished by preparation of a Hazard Communication Plan.

Office of Environmental Health Hazard Assessment. Proposition 65, the Safe Drinking Water and Toxic Enforcement Act of 1986, was enacted as a ballot initiative in November 1986. Proposition 65 was intended by its authors to protect California citizens and the State's drinking water sources from chemicals known to cause cancer, birth defects, or other reproductive harm, and to inform citizens about exposures to such chemicals. Proposition 65 requires the Governor to publish, at least annually, a list of chemicals known to the State to cause cancer or reproductive toxicity. The Office of Environmental Health Hazard Assessment has established safe harbor levels (levels of exposure that trigger the warning requirement) for some, but not all, listed chemicals. Businesses that cause exposures greater than the safe harbor level must provide Proposition 65 warnings.[25] If there is no safe harbor level for a chemical, businesses that knowingly expose individuals to that chemical would generally be required to provide a Proposition 65 warning, unless the business could show that risks of cancer or reproductive harm resulting from the exposure would be below levels specified in Proposition 65 and its accompanying regulations.

Local

County of San Luis Obispo

Safety Element, County General Plan. The Safety Element of the San Luis Obispo County General Plan (San Luis Obispo, 1999) has two main principles: to be ready for disaster, and to manage development to reduce risk. The Safety Element covers hazards related to flooding, geology, fire, hazardous materials, and other causes. The following programs and standards are directly relevant to the DCPP.

- Standard S-68: Review commercial projects which use, store, or transport hazardous materials to ensure necessary measures are taken to protect public health and safety.

Emergency Operations Plan (EOP). The EOP provides guidance, procedures, and County policies pertaining to emergency planning and response. It is not the intent of the EOP to supersede the response procedures or emergency response plans that have been prepared by other agencies, such as CAL FIRE or city fire departments. The EOP provides support for the agencies that have the primary responsibility for responding to an emergency incident. The EOP is primarily comprised of five emergency plans: (1) Earthquake Response Plan; (2) Hazardous Materials Emergency Response Plan; (3) Dam Failure Evacuation Plan; (4) Nuclear Power Plant Emergency Response Plan; and (5) Storm Emergency Plan.

[25] Safe harbor levels are available at https://oehha.ca.gov/proposition-65/general-info/current-proposition-65-no-significant-risk-levels-nsrls-maximu.

4.10.2.2 Radiological Materials

The primary federal and state laws, regulations, and policies that pertain to the Project are summarized in Appendix C. Those applicable to radiological materials are discussed below.

Federal

In 1959, Congress amended the Atomic Energy Act to reaffirm states' traditional role in the regulation of power generation while simultaneously asserting the Atomic Energy Commission's exclusive authority over radiological safety, providing that "Nothing in this section shall be construed to affect the authority of any state or local agency to regulate activities for purposes other than protection against radiation hazards" (42 US Code §2021(k)). The Energy Reorganization Act (1974) split the duties and authorities of the Atomic Energy Commission into the Energy Research and Development Administration, which was responsible for development and production of nuclear weapons, promotion of nuclear power, and other energy related programs, and the NRC was responsible for regulatory oversight of civilian nuclear energy programs. In 1977, the Energy Research and Development Administration was terminated, and its functions and responsibilities were transferred to US Department of Energy (DOE) by the Department of Energy Organization Act, P.L. 95-91, 91 Stat. 565 (1977). As a result, the NRC has since its founding had preemptive authority over all civilian nuclear programs including decommissioning activities and radiological safety (Garvey, 2011). Nevertheless, this EIR identifies applicable significance thresholds, assesses the Project's environmental impacts and their significance, and considers measures to avoid or substantially reduce any radiological effects found to be potentially significant.

The NRC's oversight also includes management and safe storage of SNF until it can feasibly be moved off site (10 CFR Part 72 Subpart K, §72.210 (NRC, 2001)). During decommissioning and until the DCPP NRC operating and SNF storage licenses are terminated, the NRC is also responsible for on-going inspection and monitoring of all liquid and airborne radiological releases at DCPP; any such releases must be maintained below the same radiological limits as when the plant was in operation (42 US Code, 2021).

In summary, the NRC is the lead federal agency responsible for oversight and safety related to radiological hazards and constituents, as well as review and approval of a LTP for the DCPP reactor operating licenses. The NRC's exclusive jurisdiction preempts states and state agencies from imposing any regulatory requirements related to radiation hazards or nuclear safety (see Section 1.2.1.2, *Federal Preemption*). The NRC may, and does, consult with other federal agencies as part of NRC submittals, such as the USEPA as part of the license termination process; and the US Fish and Wildlife Service (USFWS) regarding special status species, such as the federally threatened California red-legged frog present in Diablo Creek.

The primary NRC regulations regarding decommissioning are 10 CFR Part 50 Section 50.82, Termination of License (NRC, 1988a), and 10 CFR Part 20 Subpart E - Radiological Criteria for License Termination (NRC, 1997).

During decommissioning, DCPP would remain regulated by the NRC under some of the same regulations that apply while the nuclear plant is in operation. The regulations that apply to the Proposed Project in 10 CFR include, but are not limited to:

- Part 20 – Standards for Protection Against Radiation (NRC, 1991a; NRC, 1997)
- Part 50 – Domestic Licensing of Production and Utilization Facilities (NRC, 1988a)
- Part 51 – Environmental Protection Regulations For Domestic Licensing and Related Regulatory Functions (NRC, 1984)
- Part 72 – Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste (NRC, 2001)
- Part 73 – Physical Protection of Plants and Materials (NRC, 1979).

In support of the regulatory requirements during decommissioning and permanent shutdown, the NRC provides licensees with guidance for satisfying the regulations in regulatory guides and NUREGs (technical reports) that further demonstrate the thoroughness of the NRC's regulation of decommissioning. Some of the guidance documents include:

- Regulatory Guide 1.184 – Decommissioning of Nuclear Power Reactors (NRC, 2013a)
- Regulatory Guide 1.185 – Standard Format and Content for Post-Shutdown Decommissioning Activities Report (NRC, 2013b)
- Regulatory Guide 1.179 – Standard Format and Content for License Termination Plans for Nuclear Power Reactors (NRC, 2019)
- Regulatory Guide 1.191 Rev 1 – Fire Protection Program for Nuclear Power Plants During Decommissioning (NRC, 2021k)
- NUREG-1575 – Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM), Revision 1 (NRC, 2000)
- NUREG-0586 – Final Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities - Supplement 1 (NRC, 2002b)
- NUREG-2157 – Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel (NRC, 2014)
- NUREG-1757 Vol. 2 – Consolidated Decommissioning Guidance, Characterization, Survey, and Determination of Radiological Criteria, Rev. 2 (NRC, 2022a).

The NRC and the USEPA entered a Memorandum of Understanding (MOU) on October 9, 2002, on Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites (NRC, 2002a). The MOU continues the 1983 USEPA policy that USEPA would defer Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authority over NRC decommissioning sites, unless otherwise requested by the NRC. The MOU states that USEPA would defer completely to NRC authority without the need for consultation on sites undergoing decommissioning, except where any of the following three criteria are triggered.

- Groundwater contamination exceeds USEPA's Maximum Concentration Levels
- The site is proposed for restricted (10 CFR 20.1403) [or alternate (10 CFR Part 20.1404)] release

- Soil radionuclide levels exceed values in Table 1 of the MOU (NRC, 2002a).

Table 4.10-5 presents a summary of the NRC's authority over nuclear hazards and radiological materials as it applies to the characterization and disposal of wastes that would be generated during decommissioning of DCPP.

Table 4.10-5. NRC's Authority over Nuclear Hazards and Radiological Materials

Release of Property and Equipment
Following the industry practice described in NRC Inspection and Enforcement (I&E) Circular 81-07 (NRC, 1981) presumes compliance with Governor Executive Order No. D-62-02 (California Office of Governor, 2002), which established a moratorium on in-state disposal of decommissioning wastes in California. The Circular establishes operational detection levels below which the probability of any remaining, undetected contamination is negligible and can be disregarded when considering the practicality of detecting and controlling such potential contamination and the associated negligible radiation doses to the public. There cannot be any recycling of decommissioning material within California, regardless of the level of radioactivity (if any). NRC refers to NUREG-1757, Volume 2, for tables of screening criteria (concentrations) applicable to surface contamination of buildings and to surface soils (Tables H.1 and H.2) (NRC, 2022a).
Release of Potentially Contaminated Volumetric Material
NUREG-1757, Vol. 2 Revision 2 states that reactor licensees (10 CFR Part 50 licensees) may release equipment and building structure deconstruction and dismantlement materials in accordance with guidance in I&E Circular 81-07, Information Notice 85-92, and Information Notice 88-22 (NRC, 2022a). Volumetric material media could include subsurface soil, surface or subsurface water, biota, air, sewers, sediments, sewage sludge, internally contaminated equipment, or volumetric (versus surficial) building residual radioactivity. Information Notice 85-92 (NRC, 1985) supplements the guidance of I&E Circular 81-07 as it applies to surveys of solid waste materials before disposal from nuclear reactor facilities. In practice, no radioactive (licensed) material means no detectable radioactive material." The Notice continues to say, "Careful surveys, using methods (equipment and techniques) for detecting very low levels of radioactivity, are made of materials that may be contaminated and that are to be disposed of as clean waste. These survey methods should provide licensees with reasonable assurance that licensed material is not being released from their control." The current governing regulation for purposes of radiological waste disposal is 10 CFR 20 Subpart K – Waste Disposal, 10 CFR 20.2001(a)(1)). The NRC's regulations in 10 CFR 20.2001, "General Requirements," of 10 CFR Part 20, Subpart K, "Waste Disposal," identify the methods by which a licensee may lawfully and safely dispose of its licensed radioactive waste. One such method, set forth in 10 CFR 20.2002, "Method for obtaining approval of proposed disposal procedures," allows "alternative disposal" authorizations. Section 20.2002 is a general provision that allows for alternative disposal methods that are different from those already defined in the regulations, provided that doses are maintained as low as is reasonably achievable (ALARA) and within the dose limits in 10 CFR Part 20. Information Notice 88-22 (NRC, 1988b) instructs reactor licensees to apply in accordance with the provisions of 10 CFR Part 20.302 (current provision 10 CFR Part 20.2002) to dispose of sewage sludge containing very low levels of licensed radioactive material in a manner not otherwise authorized in the regulations. Applications for approval of such disposal may be made to the NRC or Agreement State, such

Table 4.10-5. NRC's Authority over Nuclear Hazards and Radiological Materials

as California.[26] Surveys are required before disposing of sewage treatment sludge, to determine if the sludge is contaminated. Gamma-ray spectrometry is recommended on representative samples of the sludge under conditions that provide a Lower Limit of Detection (LLD) appropriate to measurements of environmental samples. Such measurements make it possible to distinguish licensed material from other radioactive materials (natural radioactive materials and worldwide fallout) that may be present in the sludge.

License Termination Rule (LTR)

A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a total effective dose equivalent to an average member of the critical group (i.e., group of individuals reasonably expected to receive the greatest exposure to residual radioactivity for any applicable set of circumstances [see 10 CFR 20.1003]) that does not exceed 25 millirem per year, including from groundwater sources of drinking water, and the residual radioactivity is reduced to levels that are ALARA. (10 CFR Part 20). The LTR applies to building structures remaining after decommissioning and does not apply to releases of equipment from the facility as part of final status surveys supporting license termination. If licensees elect to dismantle building structures and dispose of the associated materials off site (in accordance with applicable regulatory requirements), rather than leave the building structures in place (for unrestricted use), the LTR does not apply to the associated materials moved off site prior to license termination (NRC, 2022a).

NRC ensures compliance with the LTR through an ongoing inspection program that remains in place during decommissioning until the NRC license is terminated. Inspections cover Radiation Protection, Emergency Planning, Security, Engineering, and Operations all areas included in the licensed area, and decommissioning activities. The results of NRC inspections and any associated findings, except for security issues, are published in inspection reports that are publicly available (NRC, 2021a).

Occupational Radiation Exposure

Occupational doses are limited for an individual worker to a maximum of 5 rem per year (Total Effective Dose Equivalent) with separate limits for dose to various tissues and organs per 10 CFR Part 20 (NRC, 1991a).[27]

Work on the Proposed Project must minimize occupational radiation exposure, and prevent the uncontrolled spread of radioactive materials or release of radiation to areas where a member of the public could be affected. DCPP has an established Radiation Work Permit system and worker training for this control (PG&E, 2007b). Radiation Work Permits provide a mechanism for notifi-

[26] The NRC can relinquish its authority over certain radioactive materials to state governments that sign agreements with the agency. As of September 2020, there are 39 Agreement States that issue licenses, conduct inspections and enforce safety regulations over the industrial, medical, and academic uses of radioactive material. The NRC maintains regulatory authority over all commercial nuclear power reactors, research reactors and nuclear fuel cycle facilities, even those located in Agreement States.

[27] The abbreviation "rem" stands for Roentgen Equivalent Man, which is a standard unit used to measure the dose equivalent (or effective dose), which combines the amount of energy (from any type of ionizing radiation that is deposited in human tissue), along with the medical effects of the given type of radiation. For beta and gamma radiation, the dose equivalent is the same as the absorbed dose. By contrast, the dose equivalent is larger than the absorbed dose for alpha and neutron radiation, because these types of radiation are more damaging to the human body. The dose equivalent (in rems) is equal to the absorbed dose (in rads) multiplied by a quality factor representative of the type of radiation encountered (see CFR Title 10, Section 20.1004). Quantities measured in rem are designed to represent the stochastic (i.e., probabilistic) distribution of biological effects of ionizing radiation, primarily radiation-induced cancer.

cation, planning, and approval of work involving radiation exposure or use of radioactive material during a specific time period. Radiation Work Permits also identify the radiological conditions associated with the job and prescribe the limits, monitoring requirements, and protective measures applicable to the work in progress. The information on the Radiation Work Permit is made available to the worker for reference prior to the radiological work activity (NRC, 2006).

PG&E plans to chemically decontaminate specific portions of the nuclear steam supply system which would reduce the residual quantity of radioactive material therein. This would reduce the potential for decommissioning personnel to receive high doses of radiological exposure from fixed contamination typically associated with corrosion or oxide products on inside surfaces of metal components and piping (PG&E, 2022a).

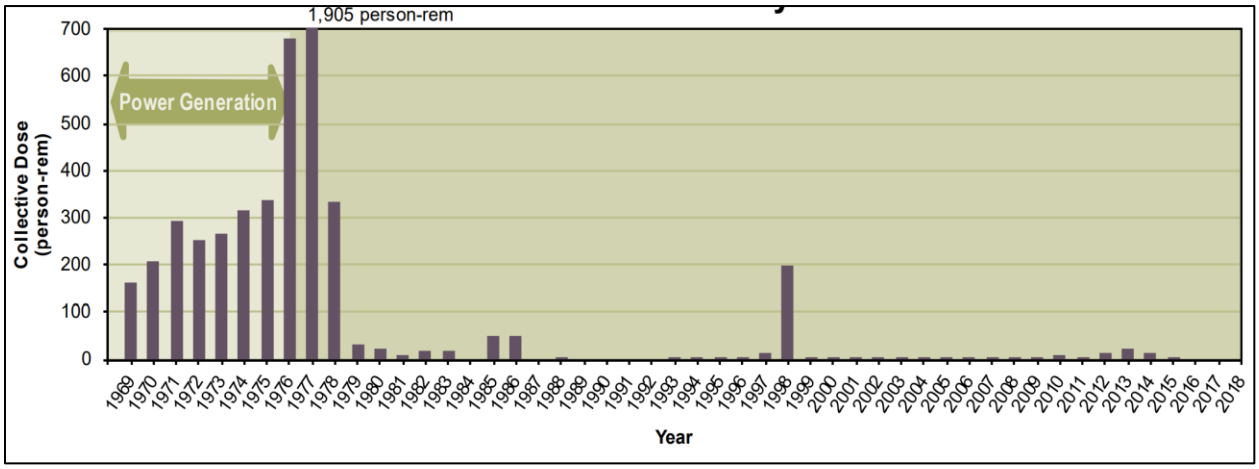
Further, the NRC's "as low as is reasonably achievable" (ALARA) program (NRC, 2006; NRC, 2022a) requires the reduction of radiation exposure to ALARA for site-wide activities including both decommissioning and routine operational activities (e.g., SFPs and approved ISFSI). ALARA program elements include job planning; dose controls and administrative limits; use of temporary shielding; pre-job briefings; dose estimates to identify priorities, establish goals, and monitor performance; and use of mockups and training for specific high-dose jobs.

PG&E evaluated DCPP operational dose data and compared it to that of other pressurized water reactors and established that DCPP operating collective dose has been below the US average Further, the average individual worker dose at DCPP is well below the average worker dose during operations for the decommissioning sites considered in the GEIS (PG&E, 2022a).

The decommissioning sites evaluated in the GEIS include sites that have transitioned directly into decontamination/dismantlement as rapidly after reactor shutdown as possible to achieve termination of the nuclear license and DCPP's current decommissioning plans would utilize methods and procedures for decontamination, dismantlement, and waste processing activities similar to those considered by NRC (NRC, 2002b). As a result, DCPP's decommissioning collective dose estimated by PG&E is expected to be bounded by typical decommissioning of US pressurized water reactors (PG&E, 2022a). The NRC considers the dose from SNF management and ISFSI operation as outside the scope of decommissioning (NRC, 2002b).

As an example of PG&E's specific experience in decommissioning, Figure 4.10-2 presents the exposure during both operating years and decommissioning of its Humboldt Bay Power Plant Unit 3. Humboldt Bay was one of the case studies considered in the NRC's decommissioning GEIS, NUREG-0586 (NRC, 2002b). The doses presented show a substantial drop in exposure following the formal shutdown in 1983. Humboldt Bay's nuclear unit (Unit 3) ceased generating power in 1976, but the decommissioning process did not begin until December 2008, after the SNF was transferred to the site's ISFSI (NRC, 2022b). Although decommissioning activities at DCPP are expected to start immediately after operations cease, post shutdown doses at DCPP are also expected to be lower than operating doses.

Figure 4.10-2. Dose During Power and Decommissioning Activities at Humboldt Bay



Source: NRC, 2020b – NUREG-0713, Attachment E.

Public Exposure Limits

The NRC and USEPA have established three layers (i.e., increasing levels) of radiation protection limits to protect the public against potential health risks from nuclear power plant spills or leaks of radioactive liquid; see Table 4.10-6.

Table 4.10-6. Radiation Protection Limits

Layer	Limit	Description
1	3 mrem per year (ALARA Objective) Appendix I to 10 CFR Part 50	Off-site radiation doses from gas and liquid releases: The NRC requires that nuclear plant operators keep these as low as reasonably achievable. For liquid releases, such as diluted tritium, the ALARA annual off-site dose objective is 3 millirem (mrem) to the whole body or 10 mrem to any organ of someone living close to the plant boundary. This ALARA objective is 3 percent of the annual public radiation dose limit of 100 mrem and a small fraction of the average natural background radiation dose.
2	25 mrem per year standard 10 CFR Part 20.1301(e)	Dose limits for individual members of the public related to nuclear power operation: In addition to NRC limits on effluent releases (see Layer 1), nuclear power plant releases to the environment must comply with USEPA standards in 40 CFR Part 190, Environmental radiation protection standards for nuclear power operations (USEPA, 1997). These standards limit the annual dose equivalent from normal operations of uranium fuel-cycle facilities (except mining, waste disposal operations, transportation, and reuse of recovered special nuclear and by-product materials). Radon and its decay products are excluded from these standards. These USEPA radiation dose limits are 25 mrem (whole body), 75 mrem (thyroid), and 25 mrem (any other organ of an individual member of the public). These standards apply to all nuclear power plants and facilities that mill and manufacture nuclear fuel. NRC's ALARA program requires nuclear plant operations to strive to achieve doses lower than the USEPA standards.
3	100 mrem per year limit 10 CFR Part 20.1301(a)(1)	Dose limits for individual members of the public related to civilian facilities using radioactive material: The NRC's final layer limits radiation doses to 100 mrem per year for individual members of the public. This limit applies to every civilian facility that uses radioactive material. Compliance is demonstrated by measurement or calculation, to show that (1) the highest dose to an individual

Table 4.10-6. Radiation Protection Limits

Layer	Limit	Description
		member of the public from sources under the licensee's control does not exceed the limit or (2) the annual average concentrations of radioactive material released in gaseous and liquid effluents do not exceed levels specified in 10 CFR Part 20, Appendix B, Table 2, at the unrestricted area boundary. The dose from external sources in an unrestricted area should also not exceed 0.002 rem in any given hour or 0.05 rem in 1 year.

Source: NRC, 2016a.
Acronyms: ALARA = as low as reasonably achievable; CFR = Code of Federal Regulations; mrem = millirem; NRC = US Nuclear Regulatory Commission; USEPA = US Environmental Protection Agency.

As indicated in Table 4.10-6, radiation exposure to any member of the public (maximum exposed individual) is limited to 25 mrem per year for the entire uranium fuel cycle in accordance with 40 CFR 190. This means doses must sum to less than 25 mrem per year from all sources of radiation: gaseous effluents, liquid effluents, ground water, and direct radiation.

PG&E reviewed the annual Radiation Environmental Monitoring Program (REMP) reports at DCPP for the years from 2013 through 2017. Their review indicated radioactivity levels in the off-site environment are well below the NRC established public dose limits (PG&E, 2022a). As part of this EIR, the Annual Radiological Environmental Operating Report (AREOR) reports for the years 2018 through 2020 (PG&E, 2019d; PG&E, 2020a; PG&E, 2021a) were reviewed; the results were similar to the earlier PG&E REMP review. Based on the effluent monitoring results:

- Current radiation exposure to members of the public from DCPP operations is a fraction of 40 CFR 190 limits.
- The ambient direct radiation levels in the DCPP off-site environs did not change with operation of the facility and are within the pre-operational background range.
- Operation of DCPP continues to have no detectable off-site radiological impact.
- Samples analyzed from the off-site sampling stations continue to show no radiological contribution from plant operations.

The calculation of doses to the public are described in the 2020 AREOR (PG&E, 2021a) and in the Annual Radiological Effluent Release Report (PG&E, 2021b). The analyses indicate that a major factor contributing to gaseous tritium activity is evaporation from the SFPs. Beta and gamma air doses were calculated at the northwest site boundary, and total body dose was calculated for a full-time resident in the east direction at approximately 4.6 miles (7.43 km) from the DCPP site. The total body dose calculation includes both inhalation and ingestion dose from radionuclide C-14 and non-noble gas organ dose. The dose calculations indicate that, due to DCPP's remote location and its surrounding security exclusion area, there are no members of the public who can receive significant doses from the site's liquid effluents. Total body dose from liquid released is calculated for a hypothetical receptor.

PG&E plans to continue their controls on potential radiological releases during decommissioning (PG&E, 2022a). Copies of all Radioactive Effluent and Environmental Reports from all nuclear

power plants are available at https://www.nrc.gov/reactors/operating/ops-experience/tritium/plant-info.html.

Documents Required by NRC for Radiological Hazard Analysis

In addition to the laws, regulations and guidelines described above, NRC has specified the development and use of several analytical reports to assist facility operators to conduct surveys, sampling, monitoring and radiological safety analyses to ensure that sites and facilities are safely managed in compliance with NRC requirements. Table 4.10-7 identifies and explains the content of these reports, which include an HSA, a Site Characterization Plan, and two monitoring reports – an AREOR and a REMP. Each of these reports contains detailed information that enables facilities to maintain a safety focused environment that protects the health and safety of employees, the public and the environment.

Table 4.10-7. Documents Required by NRC for Radiological Hazard Analysis

Document	Description
Historical Site Assessment	An HSA was performed in 2018 which was a comprehensive investigation designed to collect, organize, and evaluate existing historical information relative to the DCPP site. The HSA identified potential, likely, or known sources of radioactive and non-radioactive contamination within buildings, on plant structures, and in the site's surface and subsurface environment, based on existing or derived information (PG&E, 2018b; PG&E, 2021c).
Site Characterization Study Report	The Site Characterization Study Report would incorporate planning documents and the actual measurements with conclusions. The Plan would incorporate a Data Quality Objective (DQO) process as described in NUREG-1575, Multi-Agency Radiation Survey And Site Investigation Manual (MARSSIM), which establishes requirements for radiation detection, instrumentation, laboratory analyses, survey designs to ensure that the quality of collected data is sufficient to support subsequent site cleanup and other decommissioning decisions. The report would also show how the site complies with the regulations promulgated by both the California Environmental Protection Agency (CAL EPA) and the USEPA. Site characterization must be conducted over the entire DCPP site, further broken down into nine described study areas. The process would be iterative and would include required site cleanup requirements for both radiological and chemical contaminants for the DCPP site (PG&E, 2021c).
Annual Radiological Environmental Operating Report (AREOR) and Radiological Environmental Monitoring Program (REMP)	The AREOR (PG&E, 2021a) provides summaries of the environmental data from exposure pathways, interpretations of the data, and analyses of trend results. Routinely monitored pathways include ingestion, inhalation, and direct radiation. Routes of exposure are based on site specific information such as receptor locations, receptor ages, distance, and direction to release locations, and water usage around the plant. The site-specific REMP program has been developed and maintained in accordance with NUREG-1301 (NRC, 1991b). The DCPP REMP includes the sampling and analysis of groundwater monitoring wells located at the site for all plant-related licensed radionuclides, including hard-to-detect radionuclides.

Acronyms: AREOR = Annual Radiological Environmental Operating Report; CAL EPA = California Environmental Protection Agency; DCPP = Diablo Canyon Power Plan; HSA = Historical Site Assessment; MARSSIM = Multi-Agency Radiation Survey and Site Investigation Manual; REMP = Radiological Environmental Monitoring Program; USEPA = United States Environmental Protection Agency.

NRC Oversight at the DCPP

All nuclear activities that occur at DCPP are overseen by the NRC. The NRC has installed two resident inspectors at DCPP to conduct inspections, monitor significant work projects, and interact with plant workers and the public (NRC, 2022c). The NRC also conducts periodic, regular inspections covering the requirements contained, in part, in 10 CFR Part 73.55, which include access authorization, access control, security equipment testing, security force training, inspection of physical barriers, and intrusion detection and alarm assessment monitoring systems, among other areas.

The NRC's routine inspections of power reactor security include evaluations of the licensee's ability to protect the plant from the design basis threats of radiological sabotage, theft, and diversion. These evaluations, which have been conducted since 1992, are realistic mock attacks that challenge the plant's security force and systems. Since 2004, these NRC-evaluated exercises have been fully integrated with the inspection program for physical protection.

Operators such as PG&E are also subject to inspection and evaluations of their material control and accounting (MC&A) programs. NRC regulations in 10 CFR Part 74 include general reporting requirements applicable to anyone who possesses, transfers, or receives quantities of Special Nuclear Material. NRC regulations also require licensees to keep complete records of receipt, transfer, and inventory of all Special Nuclear Material; to develop and follow written procedures that are adequate to account for and control all Special Nuclear Material possessed; and to perform periodic physical inventories.

State and Local Regulatory Setting

The California Environmental Quality Act (CEQA) requires the County, as the Lead Agency, to consider the whole of the action in reviewing the Proposed Project (State CEQA Guidelines Sections 15003(h) and 15378), including those aspects of the Project that are legally beyond its jurisdiction (i.e., regulation of radiological aspects of decommissioning) or geographically outside of its jurisdiction (i.e., activities performed within California State Lands Commission [CSLC] or California Coastal Commission [CCC] jurisdiction). To meet CEQA legal requirements and the objectives of meaningful public disclosure and informed decision making, this EIR analyzes all potential impacts of the Project—both those over which the County has the authority to impose mitigation and those it does not. The County has been determined to be the appropriate lead agency responsible for considering the effects of all activities involved in the Proposed Project. Because DCPP is located within unincorporated San Luis Obispo County, the County has jurisdiction over a large majority of Project-related activities both within and outside of the coastal zone. Additionally, the County maintains an approved Local Coastal Program (LCP) through the CCC, which gives the County jurisdiction to approve and deny projects within the coastal zone (portions of which are within the CCC appeal jurisdiction). PG&E submitted a Development Plan (DP)/Coastal Development Permit (CDP) and Conditional Use Permit ("CUP"— for non-Coastal site area) application to the County which triggers a CEQA review of the decommissioning project activities (PG&E, 2021c).

The California Department of Toxic Substances Control (DTSC) regulates the hazardous component of mixed waste or combined waste (waste containing both hazardous and low-level

radioactive materials). DTSC issued a RCRA-equivalent Hazardous Waste Facility Permit (No. CAD077966349) to PG&E, which is effective through September 26, 2028; this permit is planned to be renewed in support of the Proposed Project. All hazardous material handling, transport, and disposal is subject to existing Department of Transportation (DOT) and the DCPP facility hazardous waste permit requirements. The DCPP facility hazardous waste permit outlines the location, storage methods, and volumes for temporary storage (one year maximum) of hazardous waste (PG&E, 2021c).

4.10.3 Significance Criteria

4.10.3.1 Hazardous Materials

The significance criteria used to evaluate the Proposed Project's impacts to hazardous materials are based on Appendix G of the State CEQA Guidelines. According to Appendix G of the State CEQA Guidelines, a significant impact would occur if the Proposed Project would:

- Create a substantial hazard to people or the environment through the routine transport, short- or long-term storage, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Be located on a site included on a list of hazardous materials sites, compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public or the environment.
- Result in mobilization of environmental contaminants, including disease vectors, currently existing in the soil or groundwater creating potential pathways of exposure to humans or other sensitive receptors.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Create a substantial aviation hazard within 2 miles of an airport or airstrip resulting in a safety hazard for people residing or working in the Project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

4.10.3.2 Radiological Materials

In 2002, the NRC prepared, pursuant to the National Environmental Policy Act (NEPA) (42 US Code 4321-4347), a Final Generic Environmental Impact Statement (GEIS) on Decommissioning of Nuclear Facilities Supplement (referred to as NUREG-0586) to analyze environmental impacts associated with the decommissioning of nuclear power plants throughout the country (NRC, 2002b). This document requires licensees to demonstrate, in a PSDAR submittal, that the environmental impacts associated with each particular nuclear power plant decommissioning effort are bounded by (i.e., fall within) the impacts evaluated in the 2002 GEIS Supplement or other

previously issued Environmental Assessment or EIS, or additional NEPA review would be necessary (NRC, 2002b). This filing is required to be submitted prior to any major decommissioning activity.

The NRC uses terms from NEPA documents to define the standards of significance (i.e., significance criteria) for assessing radiological environmental impacts associated with decommissioning, as shown in Table 4.10-8.

Table 4.10-8. Levels of Significance

Level	Description
SMALL	Environmental effects are not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource. For the purposes of assessing radiological impacts in the GEIS Supplement, the NRC concluded that impacts that do not exceed permissible levels in the NRC's regulations are considered small.
MODERATE	Environmental effects are sufficient to alter noticeably, but not to destabilize, important attributes of the resource.
LARGE	Environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource.

Source: NRC, 2002b – NUREG-0586.

As shown in Table 4.10-9, the NRC determined that radiological impacts from decommissioning nuclear power facilities are SMALL. This analysis assumes that decommissioning activities are conducted in compliance with NRC regulations and guidelines, and under NRC oversight. The column labeled “Generic” indicates that the GEIS included a comprehensive analysis of each of the categories of potential radiological impacts.

Table 4.10-9. Summary of NRC 2002 GEIS Radiological Impact Analysis for Decommissioning Nuclear Power Facilities

Issue	Generic	Impact
Radiological		
- Activities resulting in occupational doses to workers	Yes	SMALL
- Activities resulting in doses to the public	Yes	SMALL
Radiological Accidents	Yes	SMALL
Occupational Issues	Yes	SMALL
Transportation	Yes	SMALL

Source: NRC, 2002b – NUREG-0586.

The Independent Spent Fuel Storage Installation (ISFSI) was previously approved by the County of San Luis Obispo. However, the approval was appealed to the CCC and conditionally approved (see Section 1.2.2, *ISFSI Approval and Cask Design*). In 2014, the NRC analyzed potential radiological environmental impacts associated with ISFSIs over three possible timeframes: a short-term timeframe, which includes 60 years of continued storage after the end of a reactor’s licensed life for operation; an additional 100-year timeframe (60 years plus 100 years) to address the potential for delay in the availability of a long-term, off site repository; and a third, indefinite timeframe to address the possibility that a repository never becomes available. Potential impacts

for activities, facilities, and areas important to radiological hazards were analyzed by the NRC for each of these possible timeframes and are presented in Table 4.10-10. For all activities and systems related to the ISFSI, the radiological impacts were determined to be SMALL. As above, this analysis is based on the presumption that decommissioning activities are conducted in compliance with NRC regulations and guidelines, and under NRC oversight.

Table 4.10-10. Summary of NRC Analysis of ISFSI Storage Impacts

Category		Storage		
		Short-Term	Long-Term	Indefinite
Waste Management	LLW	SMALL	SMALL	SMALL
	Mixed Waste	SMALL	SMALL	SMALL
Transportation	Traffic	SMALL	SMALL	SMALL
	Health Impacts	SMALL	SMALL	SMALL
Public/Occupational Health		SMALL	SMALL	SMALL
Accidents		SMALL	SMALL	SMALL
Sabotage or Terrorism		SMALL	SMALL	SMALL

Source: NRC, 2014 – NUREG-2157, Table 4-2.

The primary NRC regulations regarding decommissioning are 10 CFR Part 50 Section 50.82, Termination of License, and 10 CFR Part 20 Subpart E - Radiological Criteria for License Termination. Following the industry practice described in NRC Inspection and Enforcement (I&E) Circular 81-07 (NRC, 1981), compliance with NRC requirements would be presumed at the actual Minimum Detectable Activity (MDA), if the MDA is at or below the described levels. Using standard detection technologies (e.g., portable radiation scanning equipment), the MDA would correspond to exposure limits that are substantially less than 5 mrem. However, as discussed above, California Executive Order D-62-02 places a moratorium on the in-state disposal, reuse, or recycling of any decommissioning wastes in California (California Office of Governor, 2002).

California's DTSC has also issued an Information Advisory on Clean Imported Fill Material regarding the introduction of hazardous waste as fill material at sensitive use areas (CAL-EPA, 2001).

The site-specific significance criteria used to evaluate the Proposed Project impacts related to hazardous or radiological materials are based on Appendix G of the State CEQA Guidelines with attention to the descriptions contained in the NRC's 2002 GEIS. Significant radiological impacts could result from conditions or the risk of events or incidents that could:

- Create a substantial hazard to site decommissioning workers, the public, or the environment through decommissioning and disposal of radioactive materials.
- Result in a design basis accident (DBAs) or severe (beyond design basis) accident during decontamination and dismantlement activities.
- Increase the probability or volume of liquid spills containing radioactive material into the environment.
- Increase residual radioactivity concentrations in ground, soil, or groundwater through dust control measures or through intentional dilution (mixing) of radioactive material with slightly contaminated or clean material.

- Result in inadequate existing and proposed emergency response capabilities to effectively mitigate spills, fires, and other accident conditions involving radioactive material during decommissioning, such that there is a substantial impact on safety of the public and site workers.
- Identify a larger or higher concentration tritium plume on site during decontamination and dismantlement activities.
- Result in a failure to comply with regulations applicable to radiological materials.

4.10.4 Environmental Impact Analysis and Mitigation

Nuclear power plant operations may cause releases of radionuclides into the air, soil, and groundwater that must be remediated to prevent off-site migration or to meet decommissioning and license termination criteria. The physical characteristics of some radionuclides, and the levels of contamination that result from nuclear power plant operations, could require implementation of industry standard technologies and potentially additional, innovative methods to remediate the radiological risks associated with decontamination and decommissioning activities associated with the Proposed Project.

Nuclear power plant decommissioning requires expertise in safe industrial dismantling and demolition, nuclear power plant operations, radiation protection, radiological characterization, environmental protection, radwaste management, and other specialized disciplines (EPRI, 2013). The DCPP site includes numerous systems, structures and facilities known to contain radiological materials (e.g., the SFPs and approved ISFSI) or have known or potential contamination caused by releases of non-radiological or radioactive hazardous materials during the operation of the reactors and their support facilities. The natural environment at the site (including soil and groundwater) has also been impacted by the release of non-radiological and radiological hazardous materials during past operations.

4.10.4.1 Hazardous Materials

Impact HAZ-1: Expose people to hazardous materials or create soil and/or groundwater contamination due to accidental spills or release of hazardous materials (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

Non-radiological hazardous waste generated at DCPP is currently stored at the on-site hazardous waste management facility. During the Proposed Project, non-radiological hazardous wastes would also be stored and managed at the existing on-site hazardous waste management facility. While this would be a temporary increase in use of the facility, the DCPP Hazardous Materials Business Plan manages the hazardous materials inventory, emergency contacts, provides a site plan, response strategies, and procedures for on-site refueling (refueling stations and fuel tank locations, maintenance, and operation). Removal of hazardous wastes (e.g., asbestos and lead-based paint from buildings and contaminated soil excavated from underground storage tank

sites) as addressed in the Waste Management Program may temporarily require increased use of the hazardous waste facility to handle, characterize, and transport the waste to approved disposal facilities.

Public access to DCPP is restricted and site activities related to hazardous materials handling during decommissioning would not affect the public. All hazardous material handling, transport, and disposal would be subject to existing US Department of Transportation (DOT) and DCPP facility hazardous waste permit requirements. The DCPP facility hazardous waste permit outlines the location, storage methods, and volumes for temporary storage (one year maximum) of hazardous waste. DTSC issued a RCRA-equivalent Hazardous Waste Facility Permit to PG&E, which is effective through September 26, 2028. Due to the timing of decommissioning, the Permit may require extension and would be completed per MM HAZ-1 (*Facility Hazardous Waste Permit Extension*).

Transport of non-radiological hazardous wastes offsite for disposal would be accomplished by barge, rail, or truck in accordance with state and local permits. The transport of hazardous materials would increase temporarily during the Project. Implementation of MM HAZ-1 (*Facility Hazardous Waste Permit Extension*) along with the existing DCPP Hazardous Materials Business Plan, would ensure that response strategies, including proper procedures for handling, storing, and managing accidental spills or release of hazardous materials, are in place. As such, the Proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and impacts would be reduced to a less-than-significant level (Class II).

Railyards

Pismo Beach Railyard. Transport of non-radiological hazardous wastes off site for disposal would be accomplished by rail, in accordance with state and local permits. The PBR site would only be used as a contingency site for the transport of non-radiological hazardous materials by rail. Currently, the site supports PG&E's operations and has been used for various equipment and material storage and transport needs in support of DCPP. The site contains a rail spur off a Union Pacific Railroad line, which has been used to transport large components, waste, and other various pieces of equipment during the construction and operation of DCPP. Shipments to this site would be subject to the same hazardous material handling, transport, and disposal regulations as described above. The PBR site would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and impacts would be less than significant (Class III).

SMVR-SB. Radiological waste (Class A, B, C) would be handled and transported at the SMVR-SB site. Please see discussion of impacts under Radiological Materials (Section 4.10.4.2). Non-radiological hazardous waste could be delivered to this site as well. The transport of hazardous materials would increase temporarily during the Proposed Project. The SMVR-SB site is an existing industrial facility and is presently utilized as a rail loading facility for a variety of materials including hazardous liquids and materials. Shipments to these sites would be subject to the same hazardous material handling, transport, and disposal regulations as described above. Transport of non-radiological hazardous waste at the SMVR-SB site would not create a significant hazard to the public or the environment through the routine

transport, use, or disposal of hazardous materials, and impacts would be less than significant (Class III).

Phase 2

Activities in Phase 2 include contaminant remediation, demolition of remaining utilities and structures, soil grading and landscaping, long-term stormwater management, closure of the Intake Structure, and continuation of Discharge Structure removal and restoration activities. Construction activities would involve construction equipment and vehicles entering and exiting the DCPP site to transport workers, materials, and structures, but at a much smaller scale compared to Phase 1.

During Phase 2, there would be limited or minimal transport of non-radiological hazardous wastes off site for disposal, accomplished by barge or truck in accordance with state and local permits. As with Phase 1, the transport of hazardous materials would increase temporarily during the Proposed Project. Implementation of MM HAZ-1 (*Facility Hazardous Waste Permit Extension*) along with the existing DCPP Hazardous Materials Business Plan would ensure that response strategies, including proper procedures for handling, storing, and managing accidental spills or release of hazardous materials, are in place. As such, the Proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and impacts would be reduced to a less-than-significant level (Class II).

As described in Section 2.3.16.3, *Recycled Concrete*, direct reuse of clean concrete without soil blending would only occur where the crushed concrete is isolated from stormwater and groundwater, specifically the water circulation tunnels associated with the Intake Structure and Discharge Structure. In these instances, the crushed concrete would be used as an aggregate and blended with cement to create a controlled low strength material to fill the water circulation tunnels. Because the crushed concrete is completely isolated from stormwater and groundwater, there is no potential risk due to leaching. Crushed concrete would also be blended with soil into an engineered fill within the lower terrace of the DCPP site. As discussed under Impact HWQ-1 in Section 4.11, *Hydrology and Water Quality*, potential leaching from crushed concrete at this lower elevation cannot lead to any drinking water source due to overall site hydrogeological characteristics and the higher elevation of the aquifer replenishing the location tapped by the deep water well. As such, leachate from crushed concrete reuse at the DCPP site would not create soil and/or groundwater contamination and impacts from leachate would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Please see discussion of impacts under Radiological Materials (Section 4.10.4.2) regarding the new GTCC Waste Storage Facility. Accidental spills and the potential release of hazardous materials would not be expected to occur at the Security Building, Storage Buildings, or GTCC Waste Storage Facility, as operations do not involve the use of hazardous materials. For the indoor Firing Range, ammunition would be contained within the building and properly disposed. Therefore, no impact would occur.

Future Actions. Marina operations would require submittal of a Development Plan and Coastal Development Permit for re-use at the site. PG&E has stated that operations would be limited to car parking, restrooms, and use of boats and non-motorized water vessels, such as kayaks and stand-up paddleboards. While limited, these activities have the potential to create soil and/or groundwater contamination due to accidental spill or release of hazardous materials. As discussed in Section 4.11, *Hydrology and Water Quality*, MM HWQ-1 (*Long-Term Erosion and Sediment Control Plan*) ensures any runoff from the new parking lots or restroom facilities would be controlled and treated. Additionally, as required by MM HWQ-2 (*Clean Marina Lease Provisions*), PG&E would be required to include clean marina provisions in any future lease for the Marina's use. As such, impacts would be reduced to a less-than-significant level (Class II).

Mitigation Measures for Impact HAZ-1.

HAZ-1 **Facility Hazardous Waste Permit Extension.** Prior to the start of decommissioning (ground-disturbing and dismantling) activities during Phase 1, and as necessary during Phase 2, the Applicant or its designee shall coordinate with the California Department of Toxic Substances Control to add all decommissioning activities to the existing DCPP facility permit and obtain time extensions as necessary until all regulated waste is removed from the DCPP site. Separate Hazardous Waste Permits shall be obtained for the activities at the railyards (Pismo Beach Railyard and/or Santa Maria Valley Railyard – Betteravia Industrial Park). A copy of the Hazardous Waste Permit Extension and the Pismo Beach Railyard and Santa Maria Valley Railyard – Betteravia Industrial Park Hazardous Waste Permits shall be provided by the Applicant or its designee to the County of San Luis Obispo at least two weeks prior to the start of decommissioning activities for Phase 1 and Phase 2. The County of San Luis Obispo shall verify the Hazardous Waste Permit Extension prior to decommissioning activities.

HWQ-1 **Long-Term Erosion and Sediment Control Plan.** See Section 4.11.

HWQ-2 **Clean Marina Provisions.** See Section 4.11.

Impact HAZ-2: Expose workers to hazardous materials from mobilization of existing soil or groundwater contamination (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

The Proposed Project would require demolition and removal of many structures and components that contain non-radiological hazardous materials, such as structures that may include asbestos or lead paint. Building materials containing asbestos would be removed in accordance with CalOSHA requirements, CalOSHA worker registration policies, and standard practice and construction safety orders of the California Department of Industrial Relations. Structures with lead-based paint would require removal of the paint prior to cutting, torching, or demolition in accordance with California Department of Industrial Relations regulations. Oil sumps and underground storage tanks containing oil, diesel fuel, or other hazardous fluids would also be removed.

Hazardous chemicals contained in storage tanks (above or below ground) would be removed by pumping the contents into an approved tank or truck for proper transport and disposal.

In addition, during Project activities, hazardous materials such as vehicle fuels, oil, hydraulic fluid, and other maintenance fluids would be used and stored in staging yards and at the dock locations to support ongoing marine activities. Gasoline, diesel fuel, oil, hydraulic fluid, lubricants, solvents, and cleaning chemicals used in deconstruction activities, equipment, and vehicles could be released during decommissioning from accidents or leaking equipment or vehicles. Spills and leaks of hazardous materials could result in soil or groundwater contamination. Leaks from equipment used offshore (barges and cranes) could adversely affect marine waters.

Removal of hazardous substances prior to demolition, in accordance with standard practices, and the use of safety equipment would minimize the potential for an increased risk of fire, explosion, and hazardous material release.

The spill control associated with petroleum products is directed by the DCPP's Spill Prevention, Control, and Countermeasure (SPCC) Plan as required by 40 CFR 112 for facilities maintaining an inventory of more than 1,320 gallons of oil or oil-based products. The SPCC Plan limits but does not eliminate the risk of oil spills through several measures including: proper storage and handling procedures, standard hazardous waste transport, training of personnel, procedures for fueling and maintaining construction equipment, and an emergency response program to ensure quick and safe cleanup of accidental spills.

A DCPP site-specific Stormwater Pollution Prevention Plan (SWPPP) would be prepared in compliance with the State's National Pollutant Discharge Elimination System (NPDES) in support of a Construction Stormwater General Permit (CGP) that would be required as the area of disturbance at DCPP is greater than one acre. If disturbance at the SMVR-SB site exceeds one acre, a SWPPP would be prepared. The site-specific SWPPP would specify erosion and sediment controls to minimize construction impacts on surface water quality and be designed specifically for the hydrologic setting of the DCPP site. The site-specific SWPPP would identify potential pollutant sources vulnerable to rainwater events along the coastal bluffs surrounding the Discharge Structure and Intake Cove.

In addition to the SWPPP, MM HAZ-2 (*Worker Registration/Certification*) requires workers to have the required registrations to remove asbestos, lead-based paint, and other hazardous materials. This would reduce the potential to expose workers to hazardous materials from mobilization of existing soil or groundwater contamination as workers would be trained and certified to handle hazardous materials. As such, this impact would be reduced to a less-than-significant level (Class II).

During the removal of below-ground structures and adjacent soil, contaminated soil and groundwater may be encountered. Contaminated soil may be encountered below asphalt, where leaks and spills have reached the underlying soil. Unanticipated soil contamination could exist in many areas of the DCPP facility and include gasoline and diesel fuel residuals, heavy metals, solvents, oil, PCBs, or other hazardous materials. While the required SWPPP would partly address the excavation, handling, and disposal of contaminated soil, additional mitigation is required to fully protect workers from unknown soil contamination. If field screening and laboratory data are not

properly interpreted, environmentally contaminated soil could be improperly handled and disposed of, resulting in additional environmental contamination or exposure of workers to non-radioactive contaminated materials. MM HAZ-3 (*Soil and Groundwater Site Characterization Work Plan*) requires the preparation of a Soil and Groundwater Site Characterization Study, which requires subsurface soil and groundwater sampling; an investigation work plan, including boring and sampling locations, to investigate where known and suspected soil and groundwater contamination may be present; identification of the limits of contamination based on the results of the soil and groundwater testing; and a Soil Management Plan for the identification and disposal of potentially contaminated soil. Implementation of MM HAZ-3 would mitigate the Project's adverse impacts related to unknown contaminated soil and groundwater and worker exposure to hazardous chemicals to a less-than-significant level (Class II).

Railyards

Pismo Beach Railyard. The PBR site would be used as a loading and transport facility. No ground disturbance would occur at this site. Potential impacts related to the transport of hazardous materials are discussed above under Impact HAZ-1. No impact would occur.

SMVR-SB. The SMVR-SB site is in a primarily rural agricultural area and has been historically utilized as an industrial facility. No ground disturbance would occur at this site. Potential impacts related to the transport of hazardous materials are discussed above under Impact HAZ-1. No impact would occur.

Phase 2

Activities in Phase 2 include contaminant remediation, demolition of remaining utilities and structures, soil grading and landscaping, long-term stormwater management, closure of the Intake Structure, and continuation of Discharge Structure removal and restoration activities. Construction activities would involve construction equipment and vehicles entering and exiting the DCPP site to transport workers, materials, and structures, but at a much smaller scale compared to Phase 1.

During Phase 2, there would be limited or minimal transport of non-radiological hazardous wastes offsite for disposal, which would be accomplished by barge or truck in accordance with state and local permits. As with Phase 1, adherence to the DCPP's SPCC Plan and Project-specific SWPPP would reduce impacts related to possible hazardous waste spills, but not to a less-than-significant level. In addition to the SWPPP, MM HAZ-2 (*Worker Registration/Certification*) requires workers to have the required registrations to remove asbestos, lead-based paint, and other hazardous materials. This would reduce the potential to expose workers to hazardous materials from mobilization of existing soil or groundwater contamination as workers would be trained and certified to handle hazardous materials. With the implementation of MM HAZ-2, impacts related to a hazardous material release would be reduced to a less-than-significant level.

During the removal of below ground structures and adjacent soil, contaminated soil and groundwater may be encountered. MM HAZ-3 (*Soil and Groundwater Site Characterization Work Plan*) requires the preparation of a Soil and Groundwater Site Characterization Study, which requires subsurface soil and groundwater sampling; an investigation work plan, including boring and sampling locations, to investigate where known and suspected soil and groundwater

contamination may be present; identification of the limits of contamination based on the results of the soil and groundwater testing; and a Soil Management Plan for the identification and disposal of potentially contaminated soil. Implementation of MM HAZ-3 would mitigate the Project's adverse impacts related to unknown contaminated soil and groundwater and worker exposure to hazardous chemicals to a less-than-significant level (Class II).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Please see discussion of impacts under Radiological Materials (Section 4.10.4.2) regarding the new GTCC Waste Storage Facility. No ground disturbance is expected to occur at the Storage Buildings, Security Building, or indoor Firing Range. No impact would occur.

Future Actions. After DCPP is fully decommissioned, PG&E proposes that a third party would operate the Marina area at the DCPP site. Marina operations evaluated in this EIR would include boating activities and construction and operation of the ancillary structures, parking lots, and public restroom facilities. Construction of restroom facilities involves excavation and could expose workers to hazardous materials from mobilization of existing soil or groundwater contamination. As with Phase 1, MM HAZ-2 (*Worker Registration/Certification*) would require workers to have the required registrations to remove hazardous materials. This would reduce the potential to expose workers to hazardous materials from mobilization of existing soil or groundwater contamination as workers would be trained and certified to handle hazardous materials. With the implementation of MM HAZ-2, impacts related to a hazardous material release would be reduced to a less-than-significant level (Class II).

Mitigation Measures for Impact HAZ-2

HAZ-2 **Worker Registration/Certification.** Prior to the start of any ground disturbing and dismantling activities, the Applicant or its designee shall require workers to have the required registrations to remove asbestos, lead-based paint, and other hazardous materials. The Applicant or its designee shall submit a list of all workers and their associated certification records to the County of San Luis Obispo 60 days prior to the start of any ground disturbing or dismantling activities on the DCPP site. The Applicant or its designee shall obtain verification from the County of San Luis Obispo that the list of workers and their certification records are approved prior to the commencement of any decommissioning activities or issuance of building permits for demolition, grading, or construction.

HAZ-3 **Soil and Groundwater Site Characterization Work Plan.** Prior to the start of decommissioning (ground disturbing and dismantling) activities during Phase 1, the Applicant or its designee shall prepare a comprehensive Soil and Groundwater Site Characterization Work Plan for non-radiological contamination testing, which shall include:

- Subsurface soil and groundwater sampling, after site safety constraints have been addressed (i.e., underground utilities deactivated or removed).

- An investigation work plan, including boring and sampling locations, to investigate where known and suspected soil and groundwater contamination may be present.
- Identification of the limits of contamination based on the results of the soil and groundwater testing, and procedures to protect workers during excavation, handling, and disposal of materials exceeding regulatory limits.
- A Soil Management Plan for the identification and disposal of potentially contaminated soil, which shall:
  - Consider that some contaminated soil may be present outside the limits identified in the Soil Characterization Study.
  - Include the required qualifications for professionals who shall monitor soil conditions, conduct soil sampling, coordinate laboratory testing, oversee soil excavation and disposal, determine the anticipated field screening methods, and appropriate regulatory limits.
  - Contain requirements for documentation and reporting of incidents of encountered contaminants, such as documenting locations of occurrence, sampling results, and reporting actions taken to remediate non-radiological contaminated materials.

The Applicant or its designee shall submit the Soil and Groundwater Site Characterization Work Plan to the County of San Luis Obispo for review and approval a minimum of 60 days prior to the start of any decommissioning activities. Implementation of the approved plan shall begin within 90 days of the cessation of operations of the last operating reactor. In addition, monthly soil monitoring reports shall be submitted to the County of San Luis Obispo for review, with the first report due 30 days after the Soil and Groundwater Site Characterization Work Plan is approved by the County of San Luis Obispo.

Impact HAZ-3: Expose workers and the public to Valley Fever due to mobilization of Coccidioides fungus spores in construction related dust (Class III: Less than Significant).

Phase 1

DCPP Project Site

Coccidioidomycosis, often referred to as San Joaquin Valley Fever or Valley Fever, is a fungal infection that varies with the season and most commonly affects people who live in hot dry areas with alkaline soil. This disease affects both humans and animals and is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis*. *Coccidioides immitis* spores are found in the top few inches of soil, and the existence of the fungus in most soil areas is temporary. DCPP is located in the Central Coast region of California, where relatively high numbers of cases of Valley Fever are reported. See Section 4.2, *Air Quality*, for a more detailed discussion on Valley Fever.

By generating fugitive dust, the Proposed Project could cause exposure to the arthroconidia (spores) of the *Coccidioides immitis* fungus if those spores are present in areas being excavated

or in areas where travel occurs on unpaved surfaces. Exposure to the *Coccidioides immitis* spores could cause site workers or other individuals nearby to contract the disease. Ground disturbing activities at the DCPP site would generate the largest proportion of fugitive dust emissions; however, because of the distances to sensitive receptors, the potential for decommissioning activities at the DCPP site to expose the public to *Coccidioides immitis* spores would be low. The primary way to avoid Valley Fever is to limit exposure to the *Coccidioides immitis* spores. As part of the Proposed Project PG&E would reduce the amount of disturbed area, reduce vehicle speeds on unpaved surfaces, and water disturbed soil areas during decommissioning (AC AQ-1, *Minimize Fugitive Dust*, and AC AQ-5, *SLOAPCD Fugitive Dust Reduction Measures*). As such, the potential for the Proposed Project to substantially increase the incidence of Valley Fever infection would not be significant (Class III).

Railyards

Pismo Beach Railyard. The PBR site would be used as a loading and transport facility. No ground disturbance would occur at this site. Therefore, the Proposed Project would not expose workers and the public to Valley Fever due to mobilization of *Coccidioides fungus* spores in construction related dust.

SMVR-SB. The SMVR-SB site would be used as a loading and transport facility. No ground disturbance would occur at this site. Therefore, the Proposed Project would not expose workers and the public to Valley Fever due to mobilization of *Coccidioides fungus* spores in construction related dust.

Phase 2

The potential for exposure to Valley Fever would occur generally within the DCPP site and may occur at a higher rate than in Phase 1 due to the extensive earth movement anticipated to re-contour the DCPP site for final site restoration. The railyard sites would not be used during Phase 2. As discussed under Phase 1, the Proposed Project could cause exposure to *Coccidioides immitis* spores if those spores are present in areas being disturbed or in areas where travel occurs on unpaved surfaces. Ground disturbing activities at the DCPP site would generate the largest proportion of fugitive dust emissions; however, because of the distances to sensitive receptors, the potential for decommissioning activities at the DCPP site to expose the public to *Coccidioides immitis* spores would be low. As part of the Proposed Project PG&E would reduce the amount of disturbed area, reduce vehicle speeds on unpaved surfaces, and water disturbed soil areas during decommissioning (AC AQ-1, *Minimize Fugitive Dust*, and AC AQ-5, *SLOAPCD Fugitive Dust Reduction Measures*). As such, the potential for the Proposed Project to substantially increase the incidence of Valley Fever infection would not be significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Please see discussion of impacts under Radiological Materials (Section 4.10.4.2) regarding the new GTCC Waste Storage Facility. No ground distur-

bance is expected to occur at the Storge Building, Security Building, or indoor Firing Range. No impact would occur.

Future Actions. Retained facilities available for use by a third party after decommissioning include the Marina, closed Intake Structure, the Intake Structure's ancillary structures, and boat dock. New infrastructure required for operation of the Marina could include new parking lots and restrooms with septic and dispersal system. Construction could potentially expose workers and the public to Valley Fever. The primary way to avoid Valley Fever is to limit exposure to the *Coccidioides immitis* spores. As part of the Proposed Project PG&E would reduce the amount of disturbed area, reduce vehicle speeds on unpaved surfaces, and water disturbed soil areas (AC AQ-1, *Minimize Fugitive Dust*, and AC AQ-5, *SLOAPCD Fugitive Dust Reduction Measures*). Additionally, construction of the restrooms and any ancillary structures would require additional CEQA review and dust management measures through Building Permits. As such, the impacts would be less than significant (Class III).

Operation of these components would not expose workers and the public to Valley Fever due to mobilization of *Coccidioides immitis* spores, as activities would be limited to recreational, educational, or commercial boating or research activities. No impact would occur during Marina operations.

Mitigation Measures for Impact HAZ-3. No mitigation measures are required.

Impact HAZ-4: Expose sensitive receptors at existing or proposed schools to hazardous materials or hazardous waste (Class III: Less than Significant).

Phase 1

DCPP Project Site

DCPP is a remote site and is not located within 0.25 miles of an existing or proposed school. The closest school to the DCPP site is Bellevue-Santa Fe Charter School (Avila Beach) located approximately 7 miles east of the DCPP site. No impact would occur.

Railyards

Pismo Beach Railyard. The PBR site is approximately 400 feet east of the Judkins Middle School in Pismo Beach. Compliance with all applicable federal, state, and local regulations regarding handling, storage, and disposal of non-radiological hazardous materials and hazardous waste would ensure that exposure impacts related to handling, storage, and disposal of hazardous materials within 0.25-mile of existing schools are less than significant (Class III).

SMVR-SB. The SMVR-SB site is not located within 0.25 miles of an existing or proposal school. The closest school to the SMVR-SB site is Arellanes Junior High School, located approximately 2 miles east in the City of Santa Maria. No impact would occur.

Phase 2

Activities in Phase 2 include contaminant remediation, demolition of remaining utilities and structures, soil grading and landscaping, long-term stormwater management, and closure of the

Intake Structure. As mentioned above, the DCPP site is not located within 0.25 miles of an existing or proposed school. No impact would occur.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. DCPP is a remote site and is not located within 0.25 miles of an existing or proposed school. No impact would occur.

Future Actions. Re-use of the site for Marina operations, may be comprised of boating activities and operation of the ancillary structures, parking lots, and public restroom facilities. As mentioned above, the DCPP Marina site is not located within 0.25 miles of an existing or proposed school. No impact would occur.

Mitigation Measures for Impact HAZ-4. No mitigation measures are required.

Impact HAZ-5: Result in aviation hazards for people residing or working near an airport (No Impact).

Phase 1

DCPP Project Site

The DCPP site is not located within 2 miles of a public airport or public use airport, or within an airport land use plan. The closest public use airport is the San Luis Obispo County Regional Airport located approximately 10 miles east of the DCPP site. Therefore, the Proposed Project would not result in aviation hazards for people residing or working near the San Luis Obispo County Regional Airport.

Railyards

Pismo Beach Railyard. The PBR is not located within 2 miles of a public airport or public use airport, or within an airport land use plan. The closest public use airport is the Oceano County Airport located approximately 2.7 miles south of the PBR site. Therefore, no impact for people residing or working near the Oceano County Airport would occur.

SMVR-SB. The Santa Maria Airport is located approximately 2.8 miles east-southeast of the SMVR-SB site. This site would be used to ship radioactive waste by rail only and would not present an aviation hazard for people residing or working near the Santa Maria Airport.

Phase 2

As mentioned above, the DCPP site is not located within 2 miles of a public airport or public use airport, or within an airport land use plan. The closest public use airport is the San Luis Obispo County Regional Airport located approximately 10 miles east of the DCPP site. Therefore, Proposed Project Phase 2 activities would not result in aviation hazards for people residing or working near an airport.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. The DCPP site is not located within 2 miles of a public airport or public use airport, or within an airport land use plan. No impact would occur.

Future Actions. Re-use of the site for Marina operations could include boating activities and operation of ancillary structures, parking lots, and public restroom facility. As mentioned above, the proposed DCPP Marina is not located within 2 miles of a public airport or public use airport, or within an airport land use plan. The closest public use airport is the San Luis Obispo County Regional Airport located approximately 10 miles east of the DCPP site. Therefore, the Marina's operational activities would not result in aviation hazards for people residing or working near an airport.

Mitigation Measures for Impact HAZ-5. No mitigation measures are required.

Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (Class III: Less than Significant).

Phase 1

DCPP Project Site

Trucking of waste from the DCPP site would occur during non-peak periods to minimize traffic-related impacts to Avila Beach, reducing the impairment of Avila Beach Drive as an evacuation route. In addition, as described in Section 4.16, *Transportation*, the export of wastes by barge is also proposed to substantially reduce the number of truck trips from the DCPP site.

PG&E maintains several emergency response plans, including the Hazardous Materials Business Plan, Emergency Plan (Police Protection), and SPCC Plan. The DCPP Hazardous Materials Business Plan is an accounting system for hazardous substances and informs emergency management programs. The Emergency Plan is an NRC-approved emergency plan that contains existing requirements for maintaining the capability to obtain off-site agency support as needed for DCPP emergencies. The SPCC Plan limits but does not eliminate the risk of oil spills through several measures including proper storage and handling procedures, standard hazardous waste transport, training of personnel, procedures for fueling and maintaining construction equipment, and an emergency response program to ensure quick and safe cleanup of accidental spills. These plans would continue to be implemented during decommissioning and from a hazardous materials perspective the Proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or evacuation plan. Therefore, impacts would be less than significant (Class III). Please see Section 4.17, *Wildfire*, Impact WF-1 for impacts related to fire protection, emergency response of fire personnel, and effects on emergency access.

Railyards

Pismo Beach Railyard. The use of this facility would be consistent with current and historic uses and would not interfere with any adopted emergency response plan or emergency

evacuation plan. Temporary storage of any non-radiological or non-hazardous waste at the PBR site would be kept at least one foot above any existing Federal Emergency Management Agency 100-year floodplain elevation. This would reduce the need for emergency response during the transport and temporary storage of non-radiological waste. Impacts would be less than significant (Class III).

SMVR-SB. The use of this railyard would be consistent with current and historic uses and would not interfere with any adopted emergency response plan or emergency evacuation plan. Wastes would be packaged and transported in compliance with US Department of Transportation regulations to prevent hazardous materials spills and reduce the need for emergency response during the transport of wastes. Impacts would be less than significant (Class III).

Phase 2

Activities in Phase 2 include contaminant remediation, demolition of remaining utilities and structures, soil grading and landscaping, long-term stormwater management, and closure of the Intake Structure. Construction activities would involve construction equipment and vehicles entering and exiting the DCPP site to transport workers, materials, and structures, but at a much smaller scale compared to Phase 1.

As with Phase 1, the Hazardous Materials Business Plan, Emergency Plan (Police Protection), and SPCC Plan would continue to be implemented during decommissioning and the Proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or evacuation plan. Therefore, less-than-significant impacts would occur (Class III). Please see Section 4.17, *Wildfire*, Impact WF-1 for impacts related to fire protection, emergency response of fire personnel, and effects on emergency access.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Please see discussion of impacts under Radiological Materials (Section 4.10.4.2) regarding the new GTCC Waste Storage Facility. Accidental spills and the potential release of hazardous materials would not be expected to occur at the Storage Buildings, Security Building, or indoor Firing Range. The impact would be less than significant (Class III).

Future Actions. The Marina would be made available to a third party for permitting and reuse for recreational, education, or commercial purposes. Operations would include boating activities and operation of the ancillary structures, parking lots, and public restroom facility. These operations would not impair an adopted emergency response plan or evacuation plan, as they would not require road closures or involve physical obstructions to evacuation routes such as Diablo Canyon Road/Diablo Ocean Drive. The impact would be less than significant (Class III).

Mitigation Measures for Impact HAZ-6. No mitigation measures are required.

Impact HAZ-7: Trigger a wildland fire exposing structures and people to significant risk of loss, injury, or death (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

The southern half of the DCPP site is located within a High Fire Hazard Severity Zone (FHSZ) while the northern half and surrounding area are within a Very High FHSZ within a State Responsibility Area (SRA). Please see Figure 4.17-1 (Fire Hazard Severity Zones), Figure 4.17-2 (State Fire Hazard Severity Zones at DCPP), and Section 4.17, *Wildfire*, for a more detailed discussion about fire hazard severity zones.

The DCPP site is an existing developed industrial site. PG&E maintains compliance with NRC regulation 10 CFR 50.48 for fire protection, which includes requirements for fire detection and suppression capabilities. PG&E also maintains compliance with applicable National Fire Protection Association codes and standards that are required for compliance with NRC regulations, and applicable CAL FIRE requirements. Compliance with these regulations and standards would continue throughout the Proposed Project.

Fire protection response for the DCPP site is provided by the Diablo Canyon Fire Department (DCFD), staffed by on-site PG&E staff. As proposed, during Phase 1 of the DCPP Project, PG&E would transition from the on-site DCFD to reliance on CAL FIRE/County Fire for fire protection services. Closure of the DCFD would impose the burden of providing emergency services at the DCPP site onto Avila Valley Station 62. Avila Valley Station 62 has a response time of 17 minutes to the DCPP site, which is greater than CAL FIRE/County Fire's target response time of 15 minutes for the full range of service levels for rural areas (CALFIRE/San Luis Obispo County Fire, 2012). Therefore, Avila Valley Station 62 could not adequately support both the DCPP site and the community of Avila Beach if multiple emergency events were to occur simultaneously, and may expose people or structures to loss, injury, or death from a wildfire (San Luis Obispo, 2022). Therefore, MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*) is recommended to maintain an acceptable level of service at the DCPP site, surrounding area, and Avila Beach so that emergency response services can adequately prevent the risk of loss, injury, or death from a wildfire. Please see Section 4.14, *Public Services and Utilities*, for a more detailed discussion about existing and future fire protection at the site.

The Proposed Project would remove and modify existing infrastructure and construct new buildings (i.e., new Security Building, GTCC Waste Storage Facility, Indoor Firing Range, and Storage Buildings) at the DCPP. PG&E has maintained Diablo Canyon Road/Diablo Ocean Drive since the DCPP has been operational and would continue to maintain it to support decommissioning equipment and traffic. Road maintenance activities could spark a fire if vehicles or equipment idle along vegetated areas along the side of Diablo Canyon Road/Diablo Ocean Drive. Some of the anticipated equipment to be used for building and structure demolition have internal combustion engines that could spark a fire if there is an engine malfunction or if work is performed near combustible materials during high fire hazard conditions. The removal, modification, and installation of infrastructure would pose a fire risk and result in impacts to the environment.

Phase 1 activities would have fewer workers and a different level of activity compared to existing DCPP operations. The reactors would no longer operate and would not pose a risk of overheating or fire, and the number of on-site workers would decrease from approximately 1,400 to approximately 870. No major permanent structures or other additional utility infrastructure would be installed that would exacerbate fire risk.

However, decommissioning activities would increase safety and fire hazard concerns for construction-related accidents, hazard spills, and hot work activities such as welding, cutting grinding, and increased combustible loading. Temporary structures would be set up to support decommissioning, and dismantlement of the plant and deactivation of plant systems. Implementing the wildfire safety measures such as those outlined in PG&E's Wildfire Mitigation Matrix, a standard matrix that is part of the DCPP Wildfire Safety Policy (see Section 4.17, *Wildfire*, and Table 2-2 in Section 2.2.4, *Ongoing Safety and Environmental Activities*) would avoid construction hot work and other applicable activities during red flag conditions. In addition, compliance with CAL FIRE's defensible space requirements for removal of dead or dying vegetation and debris (PRC Section 4291 and California Code of Regulations Title 14, Section 1299.03 – see Appendix C) and brush removal as required with every grading and construction permit and for improvements to the road leading to the SE Borrow Site would reduce the potential for sparking vegetation fires. An on-site fire department would also be available to respond to emergencies during decommissioning.

Section 2.2.4, *Ongoing Safety and Environmental Activities*, identifies several plans that may reduce the need for fire services by addressing safety protocols: DCPP Hazardous Materials Business Plan, Operational Plan, and the Transition Plan. Although the fire safety protocols in these plans would be followed throughout decommissioning activities, many of the applicable plans and programs to minimize or avoid fire safety hazards would require updating to address the decommissioning risks. Each of these plans must be evaluated for changes necessary to address decommissioning activities and updated accordingly. The current Operational Plan agreement with CAL FIRE/County Fire, in particular, must be modified to address the Project-specific decommissioning risks. The Transition Plan would provide for transitioning fire protection services from the DCFD to CAL FIRE/County Fire in a manner agreeable to both entities. MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) would require PG&E to identify applicable plans to be updated to reflect decommissioning, update them to address decommissioning activities including training and drills, firefighting pre-plans, dispatch and notification, safety, and support capabilities between DCFD and CAL FIRE/County Fire. MM PSU-1 would also record applicable specific recommendations during Project activities and provide proof of implementation to the County. The impact would be less than significant with mitigation incorporated (Class II).

Please see Section 4.17, *Wildfire*, Impact WF-2 for a more detailed discussion about the potential to exacerbate wildfire risks during decontamination and dismantlement activities and operational plans for ensuring adequate fire protection for the DCPP site.

Railyards

Pismo Beach Railyard. The PBR is not located within Moderate, High, or Very High FHSZ, but is adjacent to Very High FHSZs within a local responsibility area LRA to the east and west (see Figure 4.17-3 in Section 4.17, *Wildfire*). Infrastructure modifications at the PBR site would be

limited to refurbishing existing rail track within the limits of the facility. No new roads, fuel breaks, emergency water sources, power lines, or other utilities would be required. Construction work would be minimal and temporary and occur within a developed, paved facility. Transport of waste would occur on existing paved roads, and trucks would not park or idle in vegetated areas. Project activities at the PBR site are consistent with existing activities at the site and would not exacerbate fire risk or trigger a wildland fire due to the installation or maintenance of infrastructure. The impact would be less than significant (Class III).

SMVR-SB. The SMVR-SB site is not located within or adjacent to a Moderate, High, or Very High FHSZ (see Figure 4.17-1 in Section 4.17, *Wildfire*). Infrastructure modifications at the SMVR-SB site would require refurbishment of existing rail spurs, installation of Class 2 road base, and placement of temporary fencing, lighting, an office trailer, portable toilets, and portable power supply on site. During Phase 1 operations, trucks would transport waste to the SMVR-SB site. Equipment for loading material from trucks to railcars would include an electric gantry crane, truck-mounted cranes, scissor lifts, reach lifts, forklifts, and railcar mover. Transport of waste would occur on existing paved roads, and trucks traveling to the sites would not park or idle in vegetated areas. Project activities at the SMVR-SB site are consistent with existing activities at this site and would not exacerbate fire risk or trigger a wildland fire. The impact would be less than significant (Class III).

Phase 2

Activities in Phase 2 include contaminant remediation, demolition of remaining utilities and structures, soil grading and landscaping, long-term stormwater management, and closure of the Intake Structure. Minor infrastructure modifications such as long-term stormwater management would occur. This includes components such as basins, revegetation, and bioswales, as well as construction of a new blufftop road segment. Installation of these features would not pose a substantial risk of wildfire because activities would be less intensive than in Phase 1. PG&E's DCPP Wildfire Safety Policy (see Section 4.17, *Wildfire*, and Table 2-2 in Section 2.2.4, *Ongoing Safety and Environmental Activities*) would prohibit vehicles and equipment from driving through vegetated areas except for required work (such as the area of the SE Borrow Site) or an emergency. Vehicles would be required to park in areas clear of vegetation with all motors turned off. Firefighting equipment such as shovels, McLeod fire tools, Pulaskis, fire extinguishers, and water pump/delivery systems would be required on work vehicles to minimize the uncontrolled spread of an accidental fire. The number of workers and intensity of activities would continue to decrease as Phase 2 progresses. Phase 2 would not exacerbate fire risk or trigger a wildland fire due to the installation or maintenance of infrastructure.

At the completion of Phase 2, the primary fire protection service provider at the DCPP would change from the DCFD to the CAL FIRE/County Fire, as outlined in the Decommissioning Operational Plan and the Transition Plan (See MMs PSU-1 and PSU-2). The Transition Plan would establish the terms for transitioning fire protection services from the DCFD to CAL FIRE/County Fire to ensure adequate firefighting capabilities post-decommissioning. Potential fire- and safety-related incidents that could occur during the transitional period would be identified and addressed in the Decommissioning Operational Plan. These plans, combined with PG&E's Wildfire Mitigation Matrix, would minimize the risk of fire during decommissioning activities.

Phase 2 would implement MM PSU-1 to ensure that these plans are updated, implemented, and recorded for the County. Phase 2 activities would not trigger a wildland fire exposing structures and people to significant risk of loss, injury, or death. Therefore, the impact would be less than significant with mitigation (Class II).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Please see discussion of impacts under Radiological Materials (Section 4.10.4.2) regarding the new GTCC Waste Storage Facility. Operation of the Security Building, indoor Firing Range, and Storage Buildings would not exacerbate fire risks or result in substantial environmental impacts as operation would not involve construction or demolition activities, or the use or release of hazardous materials. Additionally, the indoor Firing Range would maintain limits on the type of ammunition allowed in the facility, routine maintenance of debris from fired ammunition in compliance with DTSC regulations and guidelines, and proper maintenance of fire extinguishers and sprinkler system as required per regulations (PG&E, 2023). No impact would occur.

Future Actions. Retained facilities available for third-party operations would include the Marina, the Intake Structure, the Intake Structure's ancillary structures, and boat dock. New infrastructure required for operation of the Marina would include a new parking lot and restrooms. Installation of that new infrastructure would require approval of a County land use permit, prior to building permit applications. Implementation of the DCPP Wildfire Safety Policy and compliance with the Wildfire Mitigation Matrix, which is part of the Wildfire Safety Policy (see Section 4.17, *Wildfire*, and Table 2-2 in Section 2.2.4, *Ongoing Safety and Environmental Activities*), would minimize the risk of accidental wildfire ignition during installation of the new parking lot and restrooms. However, operation of these components would not exacerbate fire risks causing loss, injury, or death because it would occur in paved areas and within the coastal area of the DCPP site. Boating activities would not pose a risk of wildfire. The Marina is also expected to not support a high-intensity use, as a maximum of 200 people per day is assumed to visit the Marina, and fewer people would deploy boats and other watercraft. The impact would be less than significant (Class III).

Mitigation Measures for Impact HAZ-7. See Section 4.14 for full text of measures.

PSU-1 Facility Plan Updating, Tracking, and Reporting

PSU-2 Retain the Diablo Canyon Fire Department and Emergency Facilities

4.10.4.2 Radiological Materials

There are multiple regulations PG&E must comply with to establish proof that the DCPP site is acceptable for unrestricted release. Title 10 of the Code of Federal Regulations (10 CFR) Part 20, "Standards for Protection against Radiation," states the overarching requirements regulating radiological impacts for facility operations. The framework of regulations may be best understood by reviewing what the regulations require to restore and release a site at decommissioning. The radiological criteria for license termination are in 10 CFR Part 20, Subpart E, "Radiological

Criteria for License Termination." Other applicable requirements of 10 CFR Part 20 are summarized here.

In 10 CFR 20.1003, "Definitions," "residual radioactivity" is defined as follows:

> *Residual radioactivity means radioactivity in structures, materials, soils, ground-water, and other media at a site resulting from activities under the licensee's control. This includes radioactivity from all licensed and unlicensed sources used by the licensee, but excludes background radiation. It also includes radioactive materials remaining at the site as a result of routine or accidental releases of radioactive material at the site and previous burials at the site, even if those burials were made in accordance with the provisions of 10 CFR Part 20.*

Under 10 CFR 20.1302, "Compliance with dose limits for individual members of the public," a licensee must demonstrate that, during operations and decommissioning, "The annual average concentrations of radioactive material released in liquid effluents at the boundary of the unrestricted area do not exceed the values specified in table 2 of appendix B to part 20." The concentration values are equivalent to the radionuclide concentrations which, if ingested continuously over the course of a year, would produce a total effective dose equivalent (TEDE) of 0.05 rem (50 mrem or 0.5 millisieverts [mSv]).

Subpart E of 10 CFR Part 20 includes requirements for unrestricted and restricted use of facilities after license termination (10 CFR 20.1402 and 10 CFR 20.1403, respectively). Subpart E also addresses public participation in the license termination process, the finality of license termination decisions, time periods for dose calculation, alternate dose criteria, and minimization of contamination (NRC, 1998a).

The criteria for releasing a site for unrestricted and restricted use are listed here (and summarized in Table 2-1 – excerpt below). In NUREG-1575, Supplement 1, "Multi-Agency Radiation Survey and Assessment of Materials and Equipment (MARSAME)," issued January 2009 (NRC, 2009), the NRC clarifies that if the compliance scenario is based on the reasonably foreseeable land use, the licensee should provide justification for the scenario, based on discussions with land planners, meetings with local stakeholders, trending analysis of land use for the region, or comparisons with land use in similar alternate locations. The time period of interest for possible land use changes is 100 years, depending on the rate of change in the region and the peak exposure time. Note that the 100-year timeframe is only for estimating future land uses; the licensee must evaluate doses that could occur over the 1,000-year time period specified in the LTR. The licensee should identify land uses that are less likely but plausible and evaluate scenarios consistent with these less likely but plausible land uses. In some cases, the determination of reasonably foreseeable land use may require the licensee to evaluate offsite uses of materials containing residual radioactivity as alternate scenarios in defining the compliance scenario (NRC, 2009).

In 10 CFR 20.1402, "Radiological criteria for unrestricted use," the NRC states the following:

> *A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a TEDE to an average member of the critical group that does not exceed 25 mrem (0.25 mSv) per year, including that from groundwater sources of drinking water, and the residual*

radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). Determination of the levels which are ALARA must take into account consideration of any detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal.

The regulation in 10 CFR 20.1403, "Criteria for license termination under restricted conditions," states the following:

A site will be considered acceptable for license termination under restricted conditions if:

(a) The licensee can demonstrate that further reductions in residual radioactivity necessary to comply with the provisions of § 20.1402 would result in net public or environmental harm or were not being made because the residual levels associated with restricted conditions are ALARA. Determination of the levels which are ALARA must take into account consideration of any detriments, such as traffic accidents, expected to potentially result from decontamination and waste disposal,

(b) The licensee has made provisions for legally enforceable institutional controls that provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 25 mrem (0.25 mSv) per year,

(c) The licensee has provided sufficient financial assurance to enable an independent third party to assume and carry out responsibilities for any necessary control and maintenance of the site.

(d) The licensee has submitted a decommissioning plan or License Termination Plan (LTP) to the Commission indicating the licensee's intent to decommission in accordance with §§ 30.36(d), 40.42(d), 50.82 (a) and (b), 70.38(d), or 72.54 of this chapter, and specifying that the licensee intends to decommission by restricting use of the site. The licensee shall document in the LTP or decommissioning plan how the advice of individuals and institutions in the community who may be affected by the decommissioning has been sought and incorporated, as appropriate, following analysis of that advice.

In 10 CFR 20.1401(d), the regulation states, "When calculating TEDE to the average member of the critical group the licensee shall determine the peak annual TEDE dose expected within the first 1000 years after decommissioning."

Table 2-1. Summary of 10 CFR Part 20, Subpart E

	Unrestricted Release
Dose Criterion	25 mrem TEDE per year peak annual dose to the average member of the critical group.
Timeframe	1,000 years
Other Requirements	ALARA

Source: NUREG-1549 (NRC, 1998b)

The NRC regulates radioactivity in ground water regardless of whether the material was licensed or unlicensed. Similarly, it does not matter if the release was accidental (e.g., a leak) or intentional (e.g., a planned discharge). It does not matter if the material is in a safety-related pipe or a non-safety-related pipe. It also makes no difference if the licensee is a complex power plant or a single source material licensee; the same definition of residual radioactivity applies. Surveys of ground water and surface water are required during operations and decommissioning. The level of residual radioactivity is most relevant when a licensee decides to cease operations and must satisfy the NRC's decommissioning requirements (NRC, 2010) (SC&A, Inc. [SC&A], 2022).

Thus, there are two controlling requirements on subsurface radioactivity that determine if a site may be released without restrictions: (1) a 25-mrem per year limit for all exposure pathways, including from drinking water, ground water, or both and (2) reducing the residual radioactivity, which includes activity in ground water, to ALARA. ALARA means making every reasonable effort to keep exposures to radiation as far below the dose limits as is practical consistent with the purpose for which the licensed activity is undertaken, while considering the state of technology, the economics of improvements in relation to the state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest (NRC, 2010).

Release of all or part of a power reactor site after decommissioning makes it available to members of the public for use with or without restrictions. The NRC has requirements for areas to be released from the license in 10 CFR 50.82, "Termination of license," and 10 CFR 50.83, "Release of part of a power reactor facility or site for unrestricted use" (these sections incorporate 10 CFR 20.1402 and 10 CFR 20.1403). To comply with these regulations, the licensee conducts sampling and monitoring to accurately define all radioactivity remaining on the site. Following remediation, as defined in the LTP or request for partial site release, ground water must be sampled for residual radioactivity, according to an approved scheme, to demonstrate compliance with release criteria (NRC, 2010). In addition to NRC requirements, as mentioned earlier, the NRC has entered into a memorandum of understanding (MOU) with the USEPA (NRC, 2002a) on cleanup of radioactively contaminated sites. This MOU includes provisions for NRC and USEPA consultation for certain sites, including when contamination exceeds USEPA-permitted levels at the time of license termination (SC&A, 2022).

Many of the ongoing safety and environmental program activities currently implemented at DCPP would continue throughout decommissioning. PG&E's operating licenses require detailed plans and procedures to be implemented to ensure that radiological releases are minimized or avoided, and to avoid accidents or minimize any impact. To ensure a transparent decommissioning process for all stakeholders, PG&E created a partnership with labor and leading environmental organizations to discuss issues related to decommissioning, particularly the potential reuse of the DCPP site. In 2018, PG&E created the Diablo Canyon Decommissioning Engagement Panel (DCDEP)to allow direct input to PG&E by members of the local communities and subject matter experts on DCPP decommissioning issues. The DCDEP functions solely in an informational and advisory capacity. Final decisions regarding DCPP decommissioning financial matters would be made by the CPUC in conjunction with PG&E, local governments, the NRC, and other appropriate regulatory agencies (DCDEP, 2022).

In December 2019, PG&E submitted to NRC a PSDAR that included the plans and schedule to decommission DCPP Units 1 and 2 (PG&E, 2019a); a Revision 1 was submitted in October 2022 (PG&E, 2022a). PG&E intends to update the PSDAR as needed which is required by 10 CFR Part 50.82 (a) (7). The NRC also requires PG&E to prepare submittals that reflect a change in status to a decommissioned site, such as revisions to emergency planning procedures, security procedures, and DCPP technical specifications.

Pursuant to 10 CFR 50.82, all power reactor licensees must apply for termination of license. The application for termination of license must be accompanied or preceded by a LTP to be submitted for NRC approval. The LTP must be a supplement to the Final Safety Analysis Report (FSAR) or equivalent and must be submitted at least two years before termination of the license date. The NRC requires LTPs to include:

- A site characterization report;
- Identification of ongoing/outstanding dismantlement activities;
- Plans for site remediation;
- Detailed plans for the final radiation survey;
- A description of the end use of the site, if restricted;
- An updated site-specific estimate of remaining decommissioning costs;
- A supplement to the environmental report; and
- Identification of parts, if any, of the facility or site that were released for use before approval of the LTP.

This discussion of potential radiological hazards and the programs and plans that would be used to reduce their risk and consequence are organized in five sections that correspond to specific types or categories of radiologic hazards present at DCPP. These radiological hazard impact statements assess and discuss the potential significance of the hazards, and include:

- HAZ-8: Release radioactive materials during decontamination and dismantlement activities.
- HAZ-9: Release radioactive airborne concentrations to the environment greater than regulatory limits.
- HAZ-10: Increase radioactivity concentrations in soil or groundwater to a level that exceeds decommissioning criteria.
- HAZ-11: Expand the existing or create a ground water radioactive plume that could contaminate potable water.
- HAZ-12: Cause non-compliance with Federal Regulations applicable to storage, use, or transfer of radiological materials.

These impact statements encompass the range of activities, conditions and possible events or incidents that could present a risk to workers, members of the public, or the environment during decommissioning. PG&E has multiple programs, plans and initiatives in place to minimize and prevent both radiological and hazardous chemical releases. Many of the programs are ongoing, but some are to be developed, modified and/or implemented as decontamination and dismantlement activities proceed. For example, specific processes and procedures for removing radiological materials from contaminated structures, systems and components of the reactors may depend on the nature of conditions encountered during decommissioning. In addition, because

the extent of contamination is uncertain in some buildings, facilities, and across the site (e.g., in soil, groundwater, and possibly surface water), the details of remediation plans cannot be precisely defined at this time. The methods, processes, and procedures that PG&E currently plans to utilize during the Proposed Project are described in some detail in Section 2, *Project Description (Phases 1 and 2).*

Over the past several decades, both the nuclear industry and NRC have acquired substantial experience decommissioning both commercial and noncommercial nuclear reactors. As a result, industry standards and practices have been developed to ensure that decommissioning projects are accomplished safely, without adverse impacts to workers, the public or the environment. The NRC expects these types of programs would continue to be used and improved for each nuclear reactor decommissioning project. Experience to date indicates that licensee adherence to such protocols would result in SMALL radiological impacts, as presented in the 2002 GEIS (NUREG-0586) and described in Section 4.10.3.2.). In determining the significance criteria in the GEIS, the NRC staff assumed that ongoing/existing radiation protection and related safety measures would continue throughout decommissioning, including those measures implemented during plant construction and/or operation, as appropriate (NRC, 2002b).

PG&E is a member of the Edison Power Research Institute (EPRI) Remediation and Decommissioning Technology program which provides Lessons Learned from completed decommissioning projects, which are key inputs to planning decommissioning activities at the DCPP site. Topics of the Lessons Learned program are identified below (EPRI, 2007) and Project Description Table 2-2 illustrates their application at DCPP:

- Groundwater monitoring programs
- Reactor coolant system chemical decontamination
- Reactor pressure vessel internals segmentation
- Remediation of embedded piping
- Spent fuel storage
- Low-level waste management and reduction
- Interim storage of greater than Class C waste
- Application of robotics to decommissioning

Following reactor shutdown, facility decommissioning activities would occur in two phases: Phase 1: Pre-planning and Decommissioning Project Activities (2024-2031) and Phase 2: Completion of Soil Remediation, FSS, and Final Site Restoration (2032-2039). Impacts are evaluated below.

Impact HAZ-8: Release of radioactive materials during decontamination and dismantlement activities (Class III: Less than Significant).

Phase 1

DCPP Project Site

As described in Section 2.3, *Proposed Project Activities Phase 1 – Pre-Planning and Decommissioning Project Activities (2024-2031)*, most major decommissioning activities, including the decontamination and dismantlement of the reactors and other major buildings, structures, and

facilities, would occur during Phase 1 of the Proposed Project. Many of these activities have the potential for radiation exposures that could adversely affect the health of workers and the public (NRC, 2002b). Even though reactor operations would be shut down, and nuclear fuel removed from the reactor cores, potentially significant radiologic hazards remain. Without implementation of measures to contain or manage contaminated surfaces, airborne fugitive dust, contaminated soils, or liquid effluents, workers or the public could be exposed to radioactive materials during the excavation, transportation, and disposal of contaminated structures, systems, and components (SSCs), or during cleaning of radioactively contaminated surfaces.

Major decontamination and dismantlement activities are described in Section 2.3.8, *Decontamination*; Section 2.3.9, *Building Demolition*; Section 2.3.10, *Reactor Pressure Vessel and Internals Removal and Disposal*; Section 2.3.11, *Large Component Removal*; and Section 2.3.12, *Utilities, Remaining Structures, Roads, and Parking Areas Demolition*. These sections describe the structures, buildings, and facilities to be removed and the methods, techniques, and processes to be utilized. Table 4.10-3 presents an initial summary of the structures and facilities scheduled for removal during Phase 1, and a preliminary assessment of the distribution and extent of radiological contamination based on current knowledge of site characterization data and conditions. As described in Section 2.3.7, *Site Characterization Study*, further site characterization studies are planned during Phase 1 to provide more detailed and complete information regarding the location and extent of radiological contamination.

Before performing large-scale structure demolition, PG&E would prepare plans that describe the general approach to the demolition of major structures or groups of structures, and that specify requirements or controls that must be in place before and during demolition (see Section 2.3.9, *Building Demolition*). These plans would require that:

- A pre-demolition engineering report would be prepared, as required by 29 CFR 1926.850(a).
- Decontamination of the structure would be completed pursuant to the decontamination processes and procedures outlined in Section 2.3.8, *Decontamination*. Decontamination techniques would be selected that minimize potential worker exposures. Fixative coatings would be applied where required to prevent the spread of any loose contamination.
- Radioactive, hazardous, and regulated materials would be removed.
- If required by the work plans, a dust suppression system such as a “water mister” or other similar technology and supporting high-efficiency particulate air (HEPA) filters would be installed, along with required temporary power and water supplies.
- Remaining equipment, piping, components, etc., would be drained, purged, and air gapped (i.e., a common construction technique to prevent backflow).

Building demolition would use an approach that removes contaminated systems and components from each structure prior to demolition. This strategy would minimize the chance that major demolition activities would encounter unexpected contamination and would therefore reduce the potential for worker exposure. Demolition would be accomplished through industrial means and methods, including the use of tools such as track mounted backhoes, hydraulic hoerams, hydraulic shears, concrete pulverizers, universal processors, and other similar industrial tools. PG&E has successfully applied industrial means during the decommissioning of Humboldt

Bay Power Plant Unit 3. The use of explosives is not a primary demolition method; however, some targeted applications are planned as an option for the DCPP containment structure demolition once all SNF has been transferred to the ISFSI.

As described in Section 4.10.2.2 *Radiological Materials*, decontamination and dismantlement tasks would be controlled to minimize occupational radiation exposure, and to prevent the spread of radioactive materials or release of radiation to areas where a member of the public could be affected. DCPP has an established Radiation Work Permit system and worker training for this control (PG&E, 2007b). This permit system provides a mechanism for workers to notify others, plan for, and obtain approval of any work involving radiation exposure or use of radioactive material during a specific time period. The permit system also identifies the radiological conditions associated with various jobs and prescribes the limits, monitoring requirements, and protective measures applicable to the specific type of work in progress.

Prior to any decontamination or dismantlement activities, PG&E would utilize chemical decontamination techniques as appropriate to reduce the residual quantity of radioactive material present. This would reduce the potential for workers to receive radiological exposures from fixed contamination typically associated with corrosion or oxide products on inside surfaces of metal components and piping (PG&E, 2022a).

The NRC's ALARA program (NRC, 2006; SC&A, 2022) requires the lowest reasonable radiation exposure for site-wide activities including both decommissioning and routine operational activities (e.g., SFPs and approved ISFSI). ALARA program elements include job planning; dose controls and administrative limits; use of temporary shielding; pre-job briefings; dose estimates to identify priorities, establish goals, and monitor performance; and use of mockups and training for specific high-dose jobs.

Throughout building and major structure demolition activities, all equipment and personnel would be monitored for radioactive contamination prior to release or exit from a contaminated area. Contaminated equipment must be cleaned of all radioactive contamination and proven clean by survey prior to release. If a piece of equipment cannot meet the criteria for release, the equipment would be disposed of as radioactive waste.

In addition to the radiologically contaminated buildings, facilities, and SSCs identified in Table 4.10-3 that comprise DCPP, there are three other categories of potential radiological sources associated with decommissioning that must be carefully managed and monitored throughout the Project. These include airborne fugitive dust, contaminated soils, and liquid effluents that could result from spills or other activities.

Airborne Fugitive Dust

The demolition and disposal of above- and below-grade SSCs could contribute to radiological impacts by contributing to offsite airborne releases and as a potential source of fugitive dust. Releases to the air may occur as a result of expected emissions from routine decontamination or dismantlement operations or from accidents resulting from equipment failures or human error. Development of a program to limit or eliminate accidental releases requires an understanding of the types of radionuclides that may be released, the characteristics of the releases, and the

potential for exposure to a person who resides beyond the site boundary or downwind of the site.

As described briefly in Section 4.10.2.2, *Radiological Materials*, and in annual operating reports (e.g., PG&E, 2021a) the DCPP Radiological Environmental Monitoring Program (REMP) collects radiological data on numerous environmental media at the site, including direct radiation, air particulates, specific radionuclides in air (e.g., I-131 and C-14), groundwater, surface water, drinking water, various biological media (e.g., land and aquatic vegetation, fish, mussels, animals, food products), and sediment. Radioactive airborne releases are currently monitored at six stations (PG&E, 2021a). During decommissioning, airborne radiological releases would continue to be monitored and would be required to be below the same limits as if the plant was in operation. As demolition work progresses, the location of monitoring stations may be modified to better track potential fugitive dust releases due to ongoing activities.

As required by the NRC, PG&E would implement additional environmental monitoring, including deployment of semi-permanent or mobile air monitoring stations in downwind locations to provide early warning of any radioactive airborne materials escaping from work activities. This is a standard industry practice.

As part of the Proposed Project, PG&E would also minimize the creation and spread of fugitive dust in accordance with San Luis Obispo County Air Pollution Control District standards, including dust suppression measures (Applicant Commitment [AC] AQ-1, *Minimize Fugitive Dust*). When water is used for dust suppression, runoff would be captured by a groundwater collection and treatment system (GWTS) prior to release. Treated water would be discharged according to allowable discharge concentrations according to the Central Coast Regional Water Quality Control Board. Additionally, PG&E would obtain a CGP and prepare a SWPPP prior to start of construction activities (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan* and AC WQ-1, *Construction General Permit*).

Contaminated Soils

As discussed in Sections 4.10.1.2, *Radiological Materials*, and 2.3.21, *Soil Remediation,* an IHSA was performed to collect and document existing information regarding the potential for radiological contamination of structures and areas across the DCPP site. The results of this assessment were prepared consistent with industry standards and identified areas of the DCPP site as either “impacted” or “non-impacted.” In the HSA, the DCPP site was divided into nine areas, with two of these nine areas identified as “non-impacted” from a radiological standpoint. These non-impacted areas include primarily open space areas with no structures except for roadways and fences, defined as the North Site Area (approximately 154 acres) and the South Site Area (approximately 402 acres), which extends north and west beyond the ridgeline above the Firing Range and south of the revised Owner-Controlled Area (OCA) (see Figure 4.10-1). No soil remediation is required or planned in these two areas.

The remaining seven areas defined as “impacted” under the HSA include structures or areas with radiological impacts. The radiological areas were further classified according to Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) methods. Using the MARSSIM definitions, areas identified as Class 1 would be subject to remediation, as the current level of radionuclides on structures and/or soil within these areas are above the anticipated Derived

Concentration Guideline Level (DCGL) that equate to the NRC-approved site release criteria. While Class 3 areas were identified, the concentration of radionuclides in Class 3 areas are already below the anticipated DCGL values that equate to the NRC-approved site release criteria. As such, remediation of Class 3 areas is not considered.

The preliminary Class 1 areas identified within the HSA constitute approximately 30 acres with a total estimated volume of approximately 15,930 cubic yards (CY) of contaminated materials. For these Class 1 areas, remediation is assumed to include the removal of hardened surfaces (i.e., asphalt, concrete, etc.) and soil that are characterized with radionuclide concentrations above the DCGLs. In addition, there is approximately 20,000 CY of hazardous (not radiologically) contaminated soils. Additional site characterization activities would include the collection of soil (surface and subsurface), asphalt, concrete, and sediment samples for additional radiological analysis. The results of these characterization samples would further refine the locations, volumes, and depths of radiological impacts that would be remediated.

Soil remediation activities anticipated to occur in Phase 1, as shown in Figure 2-30, include the following (PG&E, 2021c):

- Existing Firing Range – Chemical remediation
- Power Block (within PA fence line) – Turbine Building, Containment Domes, Transformers, etc.
- Discharge Structure Area
- East Canyon Area (Zone 12 in Figure 2-12) – Chemical remediation

Removal of these materials would require excavation, transport, and disposal in approved landfills. No material from contaminated structures or soils would be used as permanent backfill; however, clean backfill materials would be used to fill voids and restore grades created by the excavation below grade of existing buildings and structures, including both contaminated and clean SSCs. Based on the analyses performed by NRC in NUREG-0586 (NRC, 2002b), PG&E expects that the radiological impacts associated with the excavation, transport and disposal of contaminated soils, and the placement of clean fill materials would be well below NRC standards.

As discussed in the HSA, there is substantial uncertainty regarding the extent and levels of contamination in several areas of the site. As a result, the total volumes and extent of soil remediation that would be required for DCPP cannot be precisely determined until after the SCS (described in Section 2.3.7, *Site Characterization Study*) is completed and the characterization survey cannot be completed until after both reactor units cease operations.

Liquid Effluents

Currently the major source of liquid radioactive waste at DCPP is the ongoing operation of the SFPs. After the shutdown of the reactors, and particularly after the SNF has been transferred from the SFP to the ISFSI (which is expected to be completed in 2029), the potential for generating radioactive liquids would diminish substantially. At that point, the dismantling of the primary systems, including the SFP, can begin. The primary system dismantling process would generate some LRW, which would require dilution via the Auxiliary Salt Water System prior to disposal. LRW would continue to be produced for some time after all the spent fuel has been transferred to the ISFSI.

In the early stages of decommissioning, much of this inventory would be collected, processed, and monitored by the existing plant equipment. While the auxiliary saltwater pumps are in operation, systems containing LRW would be drained to the LRW processing system, discharged through currently identified Discharge Point 001D, and flow into the ocean through Discharge Point 001B (see Figure 2-32). The levels of radioactive material that can be filtered out would be below the levels established during operations, and below NRC standards. Because tritium cannot be removed through conventional treatment methods, the availability of a dilution source (i.e., the auxiliary saltwater system) is required to dilute the tritium concentration in the effluent prior to discharge.

While the Auxiliary Salt Water System is in operation during decommissioning, it would also provide the necessary volume to dilute effluents received from the Seawater Reverse Osmosis treatment unit and liquid radiological waste treatment system. Furthermore, this flow stream would receive effluents from other waste streams, which may include processed sanitary waste, makeup water pretreatment system, non-radiological water from plant systems, processed water from the oily water separator, and water from the firewater system.

In addition to liquid radioactive effluents related to the SFP and reactor operations, LRW could be created by collection systems set up to support dust suppression during decommissioning, either for soil remediation activities or to capture dust associated with demolition related activities. The groundwater collection and treatment system designed to capture fugitive dust described above is an example.

As part of the Proposed Project, PG&E would use established industry techniques and best management practices (BMPs) to limit or eliminate spills of contaminated liquids. Both the Spill Control and Countermeasure (SPCC) Plan (required by 40 CFR 112) and a Storm Water Pollution Prevention Plan (AC BIO-3) required as part of the CGP (AC WQ-1) would be updated as necessary to address decommissioning activities and incorporate the techniques and BMPs. Should an unknown area of contamination be identified during sub-grade soil excavation and structure removal, the area would be assessed and controlled. The NRC is responsible for conducting audits of the implementation of these plans and would therefore oversee the updates to the plans, as necessary.

NRC Required Regulatory Measures to Limit Radiological Impacts

As described in Section 4.10.2.2, *Regulatory Setting – Radiological Materials*, NRC has exclusive authority to regulate all aspects of DCPP decommissioning related to radiological health and safety. NRC also mandates the development of numerous programs, plans, and procedures to ensure that decommissioning activities comply with the relevant requirements and to limit radiological impacts. Compliance with these laws, regulations, programs, and procedures is not optional, but is fundamental to the NRC responsibility to ensure the radiological health and safety for workers, the public, and the environment. NRC has adopted these stringent requirements in part to ensure that no additional requirements (e.g., state or locally imposed) are necessary to protect radiological health and safety.

PG&E has implemented a **Quality Assurance (QA) Program** (PG&E, 2016a, PG&E, 2016b) that is applicable to all aspects of DCPP and DCPP ISFSI operations. The QA Program is required under

NRC regulations (10 CFR § 72.140). The purpose of the PG&E QA Program is to provide assurance that the design, construction, and operation of DCPP is in conformance with applicable regulatory requirements and with the specified design bases. The PG&E QA Program describes the organizational, management, and technical controls in place to protect the radiological and environmental health and safety of workers, the public, and the environment. It includes qualification and training requirements for workers, technical and procedural controls to ensure that work is performed in compliance with requirements, and record-keeping requirements to assure that all work is documented in accordance with NRC standards.

PG&E's **Radiological Protection Program** (PG&E, 2016c), required pursuant to NRC regulations (10 CFR Part 20 and 10 CFR § 100.11), includes numerous detailed plans and procedures implemented through comprehensive training and certification programs to ensure employees are qualified and capable of conducting all operations safely and in compliance with applicable regulations, and that they are trained to respond to emergencies to protect workers and the public. The plans, procedures, and other requirements are specified in the operating licenses (and other regulatory permits, as appropriate), and the NRC provides regulatory oversight to verify that operations are conducted in compliance.

The Radiological Protection Program requires that all areas of the DCPP site be identified and categorized (e.g., high radiation, contaminated) and appropriate controls (e.g., physical barriers, monitors, detectors) established and maintained during plant operations. The comprehensive radiological health and safety program also includes:

- ***Radiological and Environmental Monitoring Program,*** which monitors for radioactive contamination in the environment and collects data on numerous environmental media to ensure that standards for radiation levels and exposure at the site are met. Direct radiation, air particulates, specific radionuclides in air (e.g., I-131 and C-14), groundwater, surface water, drinking water, various biological media (e.g., land and aquatic vegetation, fish, mussels, animals, food products), sediment, and other potentially contaminated media are all monitored.
- ***Effluents Control Program*** administered in accordance with the *Offsite Dose Calculation Manual* which regulates and monitors radioactive effluents.
- ***Groundwater Protection Initiative*** which establishes standards for sampling and reporting groundwater monitoring.
- ***ALARA Program*** which requires the reduction of radiation exposure to ALARA to site-wide activities and includes both decommissioning and routine operational activities.

All personnel (PG&E employees and/ or contractors) that enter Radiologically Controlled Areas (RCAs) or who may be involved with radiological activities receive extensive radiological training, as required by the NRC, to ensure they understand their responsibility to minimize their own dose and to comply with radiological protection procedures. Training includes, but is not limited to:

- Effect of radiation and risks associated with radiation exposure (NRC, 1996b - Regulatory Guide 8.29)
- Individual response to a radiation emergency
- Prenatal radiation dose (NRC, 1999 - Regulatory Guide 8.13)

- Radiological Controlled Areas and recognition of the associated postings (10 CFR 21 Part 20)
- ALARA philosophy and concepts (NRC, 2016c - Regulatory Guide 8.10)
- Radiological protection personnel will meet or exceed the qualifications of ANSI N18.1 -1971 or be formally qualified through a NRC approved training program
- Training for demolition procedures, radiological instrumentation, and programs
- Special briefings and additional training for work with potential for high exposures

In addition to the radiological standards regulated by NRC and USEPA, PG&E must also comply with health and safety regulations promulgated by California's Division of Occupational Safety and Health (Cal/OSHA). California has a State Plan recognized by the US Occupational and Safety Health Administration (OSHA) (US Department of Labor, 2017) and is the lead agency in safety requirements. As such, site demolition workers must also have the training courses required by Cal/OSHA. On-site management personnel must have additional supervisory training. All workers involved with hazardous waste operations and emergency response must have an annual refresher if initial training is over 1 year old.

In NRC's 2002 GEIS (NUREG-0586), NRC determined that the radiological impacts of transporting radiological waste from decommissioning to offsite facilities would be SMALL (see Table 4.10-9). NRC concluded that the risk associated with truck or rail transportation is very low and well below regulatory standards. The analysis also indicated that rail shipments have lower potential radiological impacts than truck shipments. At DCPP, PG&E has proposed a blended approach using ocean barging, rail, and trucking to transport waste materials from DCPP to offsite disposal facilities. It is presumed that the potential impacts associated with transporting waste associated with the decommissioning of DCPP would be similar to, and bounded by, the impacts analyzed in the GEIS.

A report prepared by the B. John Garrick Institute for the Risk Sciences at the University of California, Los Angeles, in collaboration with PG&E, evaluated transportation risks associated with the decommissioning of nuclear power plants in general, and specifically analyzed DCPP (PG&E, 2020b). The analysis concluded that overall transportation risks were lowest for disposal strategies that relied on ocean barging. The report also noted that risks were very low in all cases analyzed, and that it would not be possible to discriminate between alternative transportation modes on the basis of radiological risks alone (see Appendix G2). Given the results described in the 2002 GEIS and the UCLA study (PG&E, 2020b), radiological risk related to the transportation of LLRW from DCPP is extremely low, and PG&E would comply with all applicable NRC and US Department of Transportation (DOT) regulations, including Federal Railroad Administration regulations and requirements. DOT published a review with guidance on the DOT Hazardous Materials Regulations (HMR) contained in 49 CFR Parts 171-185, which govern the packaging and shipment of radioactive material. Radiological materials packaged, labeled, marked, and transported in accordance with these regulations have a proven safety record. This review is found in its entirety as EIR Appendix G5, DOT 2008 Radiological Review (DOT, 2008). PG&E would use approved packaging and shipping containers for all waste shipments and would comply with state regulations enforced by the California Department of Transportation (Caltrans) and California Highway Patrol.

PG&E has also committed to implementing several other programs and plans that are not specifically limited to radiological hazards but would contribute to DCPP's ability to comply with all applicable environmental, safety, and health requirements. These plans and programs (described in Project Description Table 2-2) include:

Waste Management Program. This program includes procedures describing the disposal of radiological and non-radiological waste from DCPP. The program defines required training and provides for the packaging and transport of different types of waste in compliance with regulatory requirements.

Emergency Plan. The NRC-approved Emergency Plan for DCPP contains existing requirements for maintaining the capability to obtain off-site agency support as-needed for DCPP emergencies. NRC-approved Emergency Plans will be implemented throughout the Project commensurate with the potential radiological risks at each stage.

Site Specific Stormwater Pollution Prevention Plan (SWPPP). A site-specific SWPPP would be prepared in compliance with the State's National Pollutant Discharge Elimination System (NPDES) in support of a CGP. Erosion and sediment controls would be specified to minimize construction impacts on surface water quality and be designed specifically for the hydrologic setting of the DCPP site.

Spill Prevention, Control, and Countermeasure (SPCC) Plan. Required by 40 CFR 112 to limit the risk of oil spills through several measures including: proper storage and handling procedures, standard hazardous waste transport, training of personnel, procedures for fueling and maintaining construction equipment, and an emergency response program to ensure quick and safe cleanup of accidental spills.

Wastewater Discharge Program. The water management approach to decommissioning (which includes management of LRW) is based on the approved permit issued for DCPP power operations (NPDES CA0003751).

PG&E would also limit exposure to radiological materials by minimizing fugitive dust, as well as controlling erosion and runoff as required by the site-specific SwPPP and CGP (ACs AQ-1, BIO-3, and WQ-1). With consideration of the plans, procedures, and NRC requirements, impacts related to the release of radioactive materials during decommissioning would be less than significant (Class III).

Railyards

Pismo Beach Railyard. No radiological or hazardous waste would be shipped to this facility. No impact would occur.

SMVR-SB. During Phase 1, Class A, B, and C radioactive waste from the reactor pressure vessels and internals (as discussed in Section 2.3.10) and radiologically contaminated large components (as discussed in Section 2.3.11) may be hauled by heavy truck or heavy-haul transporter directly out of state for disposal or to the SMVR-SB site (Betteravia Industrial Park/SMVR-SB) for transport out of state via rail for disposal. This could potentially result in low level exposures to the public along transportation routes, or occupational exposures to workers and possibly soil contamination in the event of an accident or spill.

NRC evaluated the risks associated with transportation in the GEIS (NRC, 2002b), and PG&E collaborated with the B. John Garrick Institute for the Risk Sciences at UCLA to perform a comprehensive analysis of risks (including radiological) associated with transportation during decommissioning (PG&E, 2020b). Both studies found that the radiological risks associated with LLRW transportation were very low, and that doses to both workers and the public were well below NRC standards (see Appendix G2). PG&E would comply with all applicable NRC and DOT regulations, including Federal Railroad Administration regulations and requirements. PG&E would use approved packaging and shipping containers for all waste shipments and would comply with state regulations enforced by Caltrans and California Highway Patrol. Therefore, impacts related to the release of radioactive airborne concentrations to the environment during transport would be less than significant (Class III).

Phase 2

DCPP Project Site

ISFSI operations are anticipated to continue through Phase 2 and beyond but are not discussed further here because they are not part of the Proposed Project. Operation of the ISFSI would occur with or without decommissioning of the DCPP site.

As described in Section 2.3.21 *Soil Remediation,* 2.3.23 *Site Conditions at End of Phase 1*, and 2.3.19 D*ecommissioning Waste Volumes*, by the end of Phase 1 Decommissioning activities, the DCPP Unit 1 and Unit 2 areas would be decommissioned, the Discharge Structure would be removed and restored (may extend into Phase 2), and most of the other above-grade structures and below-grade structures would be demolished and decommissioned (see Section 2.3.12, *Utilities, Remaining Structures, Roads, and Parking Areas Demolition* and Figure 2-16). All LLRW (Class A, B, and C) would have been transported to disposal facilities offsite, including Energy Solutions in Clive, Utah; WCS in Andrews, Texas; and US Ecology in Idaho (see Table 2-7).

In addition, all SNF and GTCC waste would have been transferred to the ISFSI and GTCC Waste Storage Facility for long-term storage within a revised Owner Controlled Area (see Figures 2-16 and 2-17). Some site restoration activities, such as removal of utilities and ancillary structures, soil remediation, and grading and landscaping may also have been completed.

Decommissioning activities during Phase 2 would include additional soil remediation of any remaining radiological and non-radiological impacted soils, demolition of remaining utilities and structures, soil grading and landscaping, and long-term stormwater management. Because all soil remediation and other activities necessary to comply with NRC License Termination requirements would be completed during Phase 1 for the Firing Range, Power Block, Discharge Structure Area, and East Canyon Area, it is expected that Phase 2 remediation and demolition activities would generally be limited to non-radiological materials. Phase 2 would also include the completion of FSS to confirm that the DCPP site would meet the radiological requirements for NRC Part 50 facility operating license termination. Soil remediation utilizing the same techniques described in Section 2.3.21, *Soil Remediation*, would be completed for the remainder of the Part 50 licensed area.

The remaining Phase 2 activities would include:

- Grading and Landscaping (Final Site Restoration)
- Long-Term Stormwater Management
- Establishment of a Blufftop Road Segment/Coastal Trail Segment

While it is not expected that any radiological materials would be encountered during Phase 2 activities, in the unlikely event that any were discovered during the Final Status Surveys, the same industry-standard methods and techniques employed during Phase 1 would be used. Most of the technical and management controls to limit the possibility and consequences of radiological impacts described for Phase 1 activities above would remain in effect until the NRC licenses are terminated and the site released for unrestricted use. These would include, but not be limited to:

- Quality Assurance Program
- Radiological Protection Program
- Radiological and Environmental Monitoring Program
- "As Low As Reasonably Achievable" (ALARA) Program
- Spill Prevention, Control and Countermeasure Plan
- Emergency Plans

As noted in the discussion for Phase 1, as part of Phase 2 PG&E would continue to minimize fugitive dust and control erosion and runoff through the site-specific SWPPP and CGP requirements (ACs AQ-1, BIO-3, and WQ-1). With consideration of the processes and procedures defined in the various detailed safety related plans and NRC requirements, impacts related to the release of radioactive materials during Phase 2 would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. GTCC waste includes all the materials that have been irradiated during the nuclear fission process, such as the reactor itself, which would be dismantled and removed when the plant is decommissioned (DCDEP, 2022). A revised OCA would be established (see Figure 2-17), and all maintenance and surveillance activities at the GTCC Waste Storage Facility would be performed in accordance with a Radiological Protection Program designed to ensure that any exposure to the public or occupational workers would comply 66with the requirements of 10 CFR Part 20, as described in Section 4.10.4.2. Radiological impacts associated with the operation of the new GTCC facility would be less than significant (Class III).

Future Actions. Operations would include boating activities and construction and operation of the ancillary structures, parking lots, and public restroom facilities. These activities would not involve radiological materials and would be located sufficiently away from the revised OCA where radiological materials are stored. There would be no impact related to release of radioactive materials (No Impact).

Mitigation Measures for Impact HAZ-8. No mitigation measures are required.

Impact HAZ-9: Release radioactive airborne concentration to the environment greater than regulatory limits (Class III: Less than Significant).

Phase 1

DCPP Project Site

Currently, radioactive releases to the air are primarily caused by gaseous effluents containing tritium and carbon-14 associated with reactor operations (see Section 4.10.1.2.5, *Radioactive Waste Gaseous Effluent Treatment Processes*). PG&E's Radiological and Environmental Monitoring Program is designed to focus on detecting those radionuclides. As described in Section 4.10.2.2 *Radiological Materials* (in the subsections entitled "Occupational Radiation Exposure" and "Public Exposure Limits"), releases from DCPP have historically been well below applicable NRC and USEPA standards.

After the reactors shutdown in 2024 and 2025, the gaseous and liquid effluents that are the sources of these emissions would decrease and eventually cease after the dismantlement of the reactors and the SFP. As a result, radionuclide emissions are generally reduced in facilities undergoing decommissioning (NRC, 2002b). However, some emissions would continue as long as the SFP is still operating, and decontamination and demolition of major SSCs in the reactors has not been completed.

Many activities during Phase 1 of decommissioning would be similar to those that occur during normal operations and maintenance. For example, decontamination of piping and surfaces is performed in operating facilities during maintenance outages. Removal of piping or other components, such as pumps and valves, and even large components, such as heat exchangers is also common. However, some activities, such as removal of the reactor vessel or facility demolition, would be unique to decommissioning. Those activities have the potential to result in exposures to workers who are close to contaminated structures or components and provide sources and pathways for release of radioactive materials to the environment and the public that are not present during normal operation.

Decontamination and dismantlement activities would be designed to minimize or eliminate the release of airborne radiological materials to the environment. The primary potential new sources of radioactive releases during decommissioning include the contaminated materials, and airborne fugitive dust caused by demolition activities (see Section 2.3.8, *Decontamination*, and Section 2.3.9, *Building Demolition).* Methods to suppress the generation and limit the transport of airborne dust would be employed (see Impact HAZ-8) to ensure radioactive airborne releases during decommissioning would be minimized.

These technical and management controls and requirements are designed to limit radiological impacts and reduce exposure to both workers and the public, in addition to the use of the industry standard processes and procedures summarized above, and to limit the release of radioactive airborne concentrations. The numerous NRC mandated programs, plans, and procedures would ensure that decommissioning activities comply with the relevant requirements to limit radiological impacts.

As also noted for Impact HAZ-8, PG&E would minimize fugitive dust, and control erosion and runoff through the site-specific SWPPP and CGP requirements (ACs AQ-1, BIO-3, and WQ-1). Implementation of the processes and procedures defined by the various detailed safety related plans and NRC requirements, would ensure that all decommissioning activities are performed in a manner designed to reduce radiological hazards, and meet regulatory standards and requirements.

Per Section 4.10.2.2, *Radiological Materials*, historical average occupational doses at DCPP have been well below the average worker dose during operations for the decommissioning sites considered in the NRC's 2002 GEIS (PG&E, 2022a). As a result, DCPP's decommissioning collective dose estimated by PG&E (PG&E, 2022a) is expected to be well below regulatory requirements and bounded by doses experienced during typical decommissioning of US pressurized water reactors. As such, impacts related to the release of radioactive airborne concentrations to the environment would be less than significant (Class III).

Railyards

Pismo Beach Railyard. No radiological waste would be shipped to this facility. No impact would occur.

SMVR-SB. As described for Impact HAZ-8, during Phase 1 LLRW may be hauled by heavy truck or heavy-haul transporter directly out of state for disposal or to the SMVR-SB site for transport out of state via rail for disposal. In the event of an accident, this could potentially result in airborne releases to the environment.

Studies completed by the NRC (2002b) and PG&E (2020b) found that the radiological risks associated with LLRW transportation were very low, and that doses to both workers and the public were well below NRC standards (see Appendix G2). PG&E would comply with all applicable NRC and DOT regulations, including Federal Railroad Administration regulations and requirements. PG&E would use approved packaging and shipping containers for all waste shipments and would comply with state regulations enforced by Caltrans and California Highway Patrol. Therefore, impacts related to the release of radioactive airborne concentrations to the environment during transport would be less than significant (Class III).

Phase 2

DCPP Project Site

ISFSI operations are anticipated to continue through Phase 2 and beyond but are not discussed further here because they are not part of the Proposed Project (see Section 1.2.2, *ISFSI Approval and Cask Design*). Operation of the ISFSI would occur with or without decommissioning of the DCPP site.

As described for Impact HAZ-8, by the end of Phase 1 the DCPP Unit 1 and Unit 2 areas would be decommissioned, the Discharge Structure would be removed and restored (may extend into Phase 2), and most of the other above-grade structures and below-grade structures would be demolished and decommissioned. All LLRW would have been transported to disposal facilities

offsite, and all SNF and GTCC waste transferred to the ISFSI and GTCC Waste Storage Facility for long-term storage.

Decommissioning activities during Phase 2 include additional soil remediation of any remaining radiological and non-radiological impacted soils, demolition of remaining utilities and structures, soil grading and landscaping, and long-term stormwater management, as well as closure of the Intake Structure. Because all soil remediation necessary to comply with NRC License Termination requirements would be completed during Phase 1 for the Firing Range, Power Block, Discharge Structure Area, and East Canyon Area, it is expected that Phase 2 remediation and demolition activities would generally be limited to non-radiological materials. Phase 2 would also include the completion of FSS to confirm that the DCPP site would meet the radiological requirements for NRC Part 50 facility operating license termination.

In the event radiological materials are discovered during the FSS, the same industry-standard methods and techniques employed during Phase 1 would be used, as described for Impact HAZ-8, thereby limiting the possibility and consequences of radiological impacts.

As noted in the discussion for Phase 1, as part of Phase 2 PG&E would continue to minimize fugitive dust and control erosion and runoff through the site-specific SWPPP and CGP requirements (ACs AQ-1, BIO-3, and WQ-1). As such, radiological impacts would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. GTCC waste includes those wastes with concentrations of radionuclides which exceed the limits established for Class C Low-Level Radioactive Waste. For the Project, the GTCC waste inventory includes GTCC waste that has been generated throughout normal operations of the DCPP units and the GTCC waste that would be generated during RPV internals segmentation (DCDEP, 2022). A revised OCA would be established (see Figure 2-17), and all maintenance and surveillance activities at the GTCC Waste Storage Facility would be performed in accordance with a Radiological Protection Program designed to ensure that any exposure to the public or occupational workers would comply with the requirements of 10 CFR Part 20, as described in Section 4.10.4.2. The radiological impacts associated with operation of the new GTCC Facility would be less than significant (Class III).

Future Actions. Operations would include boating activities and construction and operation of the ancillary structures, parking lots, and public restroom facilities. These activities would not involve radiological materials and would be located sufficiently away from the revised OCA where radiological materials would be stored. The reuse of the site would not impact the risk of release of radioactive materials (No Impact).

Mitigation Measures for Impact HAZ-9. No mitigation measures are required.

Impact HAZ-10: Increase radioactivity concentrations in soil or groundwater to a level that exceeds decommissioning criteria (Class III: Less than Significant).

Phase 1

DCPP Project Site

Many decommissioning activities have the potential to release radionuclides into soil or groundwater that could result in radiation exposures that exceed regulatory standards and could adversely affect the health of workers and the public (NRC, 2002b). Without implementation of measures to contain or manage contaminated surfaces, airborne fugitive dust, contaminated soils, and gaseous or liquid effluents, workers or the public could be exposed to radiological materials during the excavation, transportation and disposal of contaminated structures, systems, and components (SSCs), or during cleaning of radioactively contaminated surfaces. The discussion of radiologic impacts for Impact HAZ-8 describes in detail the potential hazards and explains the methods and measures that would be utilized to ensure that radiation levels in soil or groundwater comply with NRC and USEPA standards.

After the shutdown of the reactors in 2024 and 2025, PG&E would continue the Site Characterization Study, as well as the Radiological Environmental Monitoring Program to ensure that the nature and extent of radiological materials is well understood, and to monitor for any new contamination in soil or groundwater. For example, the "wash-out" of tritium contaminated water originating from plant vents during rain events is one known process that could cause contamination. However, as described in Section 4.10.1.2.2 *Groundwater,* the levels of tritium released during these events were well below USEPA's drinking water standard. Contaminated surface water caused by decontamination or demolition activities could also create pathways to soil and groundwater. As indicated in Table 2-2, DCPP implements the NEI 07-07 Groundwater Protection Initiative (see Groundwater Protection Program Plan), and monitors several on-site observation wells, including Deep Well #2, to detect tritium or other contaminants. DCPP has not observed radioactive groundwater contamination because of power plant operations involving leaking components or piping. Studies of DCPP site hydrology indicate that any groundwater (subsurface) flow beneath the Power Block is not used as a source of drinking water. That groundwater discharges into the Pacific Ocean (PG&E, 2007a). A long-term monitoring program may be initiated prior to termination of the 10 CFR Part 50 facility operating license, if needed (PG&E, 2021c).

PG&E implements numerous NRC mandated programs, plans, and procedures to ensure that all activities comply with the relevant requirements to limit radiological impacts. These are described in more detail in the discussion for Impact HAZ-8.

As part of the Proposed Project PG&E would minimize fugitive dust, and control erosion and runoff through the site-specific SWPPP and CGP requirements (ACs AQ-1, BIO-3, and WQ-1). Implementation of the processes and procedures defined by the various detailed safety related plans and NRC requirements should ensure that all decommissioning activities are performed in a manner designed to reduce radiological hazards and meet regulatory standards and requirements. Impacts would be less than significant (Class III).

Railyards

Pismo Beach Railyard. No radiological waste would be shipped to this facility. No impact would occur.

SMVR-SB.

As described for Impact HAZ-8, during Phase 1 Class A, B, and C radioactive waste may be hauled by heavy truck or heavy-haul transporter directly out of state for disposal or to one of the two SMVR facilities for transport out of state via rail for disposal. This could potentially result in low level exposures to the public along transportation routes, or occupational exposures to workers and possibly soil or groundwater contamination in the event of an accident or spill. Studies completed by the NRC in the 2002 GEIS (NRC, 2002b) and PG&E (2020b) found that the radiological risks associated with LLRW transportation to the SMVR-SB site would be very low, and that doses to both workers and the public would be well below NRC standards (see Appendix G2). PG&E would comply with all applicable NRC and DOT regulations, including Federal Railroad Administration regulations and requirements. PG&E would use approved packaging and shipping containers for all waste shipments and would comply with state regulations enforced by Caltrans and California Highway Patrol. Therefore, impacts related to the release of radioactive concentrations in soil or groundwater during transport would be less than significant (Class III).

Phase 2

DCPP Project Site

ISFSI operations are anticipated to continue through Phase 2 and beyond but are not discussed further here because they are not part of the Proposed Project (see Section 1.2.2, *ISFSI Approval and Cask Design*). Operation of the ISFSI would occur with or without decommissioning of the DCPP site.

As described for Impact HAZ-8 discussion, by the end of Phase 1 Decommissioning activities, the DCPP Unit 1 and Unit 2 areas would be decommissioned, the Discharge Structure would be removed and restored (may extend into Phase 2), and most of the other above-grade structures and below-grade structures would be demolished and decommissioned to meet radioactivity release criteria in accordance with NRC regulations for unrestricted site use. All LLRW would have been transported to disposal facilities offsite, and all SNF and GTCC waste transferred to the ISFSI and GTCC Waste Storage Facility for long-term storage.

Decommissioning activities during Phase 2 include additional soil remediation, demolition of remaining utilities and structures, soil grading and landscaping, and long-term stormwater management. Because all soil remediation necessary to comply with NRC License Termination requirements would be completed during Phase 1, Phase 2 remediation and demolition activities would be limited to non-radiological materials. Phase 2 would also include the completion of FSS to confirm that the DCPP site would meet the radiological requirements for NRC Part 50 facility operating license termination.

In the event radiological materials are discovered during the FSS, the same industry-standard methods and techniques employed during Phase 1 would be used, as described for Impact HAZ-8, thereby limiting the possibility and consequences of radiological impacts. As part of Phase 2, PG&E would continue to minimize fugitive dust and control erosion and runoff through the site-specific SWPPP and CGP requirements (ACs AQ-1, BIO-3, and WQ-1). Impacts would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. GTCC waste includes those wastes with concentrations of radionuclides which exceed the limits established for Class C Low-Level Radioactive Waste. For the Project, the GTCC waste inventory includes GTCC waste that has been generated throughout normal operations of the DCPP units and the GTCC waste that would be generated during RPV internals segmentation (DCDEP, 2022). A revised OCA would be established (see Figure 2-17), and all maintenance and surveillance activities at the GTCC Waste Storage Facility would be performed in accordance with a Radiological Protection Program designed to ensure that any exposure to the public or occupational workers would comply with the requirements of 10 CFR Part 20, as described in Section 4.10.4.2. The radiological impacts associated with operation of the new GTCC Facility would be less than significant (Class III).

Future Actions. Marina operations, if approved under separate permit, could include boating activities and construction and operation of the ancillary structures, parking lots, and public restroom facilities. These activities would not involve radiological materials and would be located sufficiently away from the revised OCA where radiological materials are stored, pursuant to NRC regulations. There would be no impact related to the risk of release of radioactive materials (No Impact).

Mitigation Measures for Impact HAZ-10. No mitigation measures are required.

Impact HAZ-11: Expand the existing or create a ground water radioactive plume that could contaminate potable water (Class III: Less than Significant).

Phase 1

DCPP Project Site

Section 4.10.1.2.2 *Groundwater* describes current environmental and radiological conditions at DCPP related to groundwater. Section 4.11.1, *Surface Water and Groundwater Quality* also describes groundwater quality issues with a focus on non-radiological contaminants. A Groundwater Protection Program is active at DCPP in accordance with the "Industry Groundwater Protection Initiative, Final Guidance Document" prepared by the Nuclear Energy Institute (NEI) and referred to as the NEI Groundwater Protection Initiative (NEI, 2019). This program would continue during decommissioning (PG&E, 2022a). Licensees that have implemented a groundwater monitoring program consistent with the NEI Groundwater Protection Initiative are

considered by the NRC to have an adequate program for the purposes of groundwater protection (NRC, 2011).

As discussed in Section 4.10.1.2.2, *Groundwater*, tritium was detected in groundwater at DCPP and has been monitored since 2006 as part of the Radiological Environmental Monitoring Program. The low levels and location of the tritium found in groundwater at DCPP appear to be related to "wash-out" during rain events and do not indicate a leak from the SFPs or any other plant equipment. The levels of tritium were all below the USEPA drinking water standard of 20,000 picocuries per liter (PG&E, 2007a). No plant-related tritium has been detected in drinking water. PG&E plans to continue to maintain the existing radiological decommissioning records program related to groundwater monitoring required by 10 CFR 50.75(g) (PG&E, 2022a).

Until the reactors are shut down in 2024 and 2025, releases related to gaseous and liquid effluents remain plausible. After that, radionuclide emissions in gaseous and liquid effluents would decline, but other activities associated with decommissioning may create additional potential sources. For example, if water used for dust suppression in decontamination or demolition activities is not properly captured, treated, and recycled, water could come into contact with contaminated materials, and create or expand a plume of contaminated groundwater.

As part of the groundwater initiative program, PG&E conducted a review of the SSCs and related work practices that involve or could reasonably be expected to involve radiological materials and for which there is a credible mechanism for that material to reach ground water. Examples of SSCs of interest include refueling water storage tanks, if outdoors; SFPs; SFP leak detection systems; outdoor tanks; outdoor storage of contaminated equipment; buried piping; retention ponds or basins or reservoirs; and lines carrying steam.

The primary potential new sources of radioactive releases during decommissioning include the contaminated materials as they are being demolished and potential water discharge associated with demolition activities. Decontamination and dismantlement activities would be designed to minimize or eliminate the release of radiological materials to groundwater or the environment (see Section 2.3.8, *Decontamination*, and Section 2.3.9, *Demolition).* Methods to suppress dust generation and limit the contamination of groundwater would be employed (see the discussion for Impact HAZ-8).

All the technical and management programs, plans, and procedures described in detail in the discussion for Impact HAZ-8 also apply to the discussion of Impact HAZ-11. These technical and management controls and requirements are designed to limit radiological impacts and reduce exposure to both workers and the public, in addition to the use of the industry standard processes and procedures summarized above, and to limit the release of radioactive airborne concentrations. The numerous NRC mandated programs, plans and procedures would ensure that decommissioning activities comply with the relevant requirements to limit radiological impacts.

As part of Phase 1, PG&E would continue to minimize fugitive dust, and control erosion and runoff through the site-specific SWPPP and CGP requirements (ACs AQ-1, BIO-3, and WQ-1). Implementation of the processes and procedures defined by the various detailed safety related plans and NRC requirements would ensure that all decommissioning activities are performed in a

manner designed to minimize or eliminate the creation of a plume of contaminated groundwater, to reduce radiological hazards, and to meet regulatory standards and requirements. Impacts would be less than significant (Class III).

Railyards

Pismo Beach Railyard. No radiological waste would be shipped to this facility. No impact would occur.

SMVR-SB. As described for HAZ-8, during Phase 1 LLRW may be hauled by heavy truck or heavy-haul transporter directly out of state for disposal or to the SMVR-SB site for transport out of state via rail for disposal. This could potentially result in low level exposures to the public along transportation routes, or occupational exposures to workers and possibly soil or groundwater contamination in the event of an accident or spill. Studies completed by the NRC in the 2002 GEIS (NRC, 2002b) and PG&E (2020b) found that the radiological risks associated with LLRW transportation were very low, and that doses to both workers and the public were well below NRC standards (see Appendix G2). PG&E would comply with all applicable NRC and DOT regulations, including Federal Railroad Administration regulations and requirements. PG&E would use approved packaging and shipping containers for all waste shipments and would comply with state regulations enforced by Caltrans and California Highway Patrol. Therefore, impacts related to the release of radioactive concentrations that could contaminate potable water during transport would be less than significant (Class III).

Phase 2

DCPP Project Site

ISFSI operations are anticipated to continue through Phase 2 and beyond but are not discussed further here because they are not part of the Proposed Project (see Section 1.2.2, *ISFSI Approval and Cask Design*). Operation of the ISFSI would occur with or without decommissioning of the DCPP site.

As described for Impact HAZ-8, by the end of Phase 1 Decommissioning activities, the DCPP Unit 1 and Unit 2 areas would be decommissioned, the Discharge Structure would be removed and restored (may extend into Phase 2), and most of the other above-grade structures and below-grade structures would be demolished and decommissioned. All LLRW would have been transported to disposal facilities offsite, and all SNF and GTCC waste transferred to the ISFSI and GTCC Waste Storage Facility for long-term storage.

Decommissioning activities during Phase 2 would include additional soil remediation of any remaining radiological and non-radiological impacted soils, demolition of remaining utilities and structures, soil grading and landscaping, and long-term stormwater management. Because all soil remediation necessary to comply with NRC License Termination requirements would be completed during Phase 1 for the Firing Range, Power Block, Discharge Structure Area, and East Canyon Area, it is expected that Phase 2 remediation and demolition activities would generally be limited to non-radiological materials. Phase 2 would also include the completion of FSS to confirm that the DCPP site would meet the radiological requirements for NRC Part 50 facility operating license termination.

In the event radiological materials are discovered during the FSS, the same industry-standard methods and techniques employed during Phase 1 would be used, as described for Impact HAZ-8, thereby limiting the possibility and consequences of radiological impacts.

As part of Phase 2, PG&E would continue to minimize fugitive dust and control erosion and runoff through the site-specific SWPPP and CGP requirements (ACs AQ-1, BIO-3, and WQ-1). Impacts would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. GTCC waste includes all the materials that have been irradiated during the nuclear fission process, such as the reactor itself, which would be dismantled and removed when the plant is decommissioned (DCDEP, 2022). A revised OCA would be established (see Figure 2-17), and all maintenance and surveillance activities at the GTCC Waste Storage Facility would be performed in accordance with a Radiological Protection Program designed to ensure that any exposure to the public or occupational workers would comply with the requirements of 10 CFR Part 20, as described in Section 4.10.4.2. The radiological impacts associated with operation of the new GTCC Facility would be less than significant (Class III).

Future Actions. Proposed reuse operations at the Marina would include boating activities and construction and operation of the ancillary structures, parking lots, and public restroom facilities. These activities would not involve radiological materials and would be located sufficiently away from the revised OCA where radiological materials are stored, pursuant to NRC regulations. There would be no impact related to the potential risk of release of radioactive materials (No Impact).

Mitigation Measures for Impact HAZ-11. No mitigation measures are required.

Impact HAZ-12: Cause non-compliance with Federal regulations applicable to storage, use, or transfer of radiological materials (Class III: Less than Significant).

Phase 1

DCPP Project Site

The discussions of potential radiological impacts for Impact Statements HAZ-8 through HAZ-11 have focused in large part on the technical and industrial means and methods that PG&E proposes to use during the decommissioning of DCPP, and on the particular environmental media that can create radiological risks when contaminated (e.g., radioactive portions of reactor SSCs, containment buildings, etc.), as well as soil, surface water, groundwater, and air. For example, physical and chemical techniques to decontaminate and dismantle equipment, SSCs, and building have been described that would enable PG&E to decommission DCPP without exposing workers or the public to levels of radiation and/or doses that exceed NRC and USEPA standards. Most of the decommissioning activities described in Table 2-1 involve radioactive materials which could lead to noncompliance with Federal regulations. This discussion focuses not on the physical processes and procedures to be employed, but on the management controls and methods that ensure that all activities are focused on compliance with regulations.

Section 4.10.2, *Regulatory Setting*, and particularly Section 4.10.2.2, *Radiological Materials,* describe the primary federal and state laws, regulations, and policies that pertain to the Proposed Project; they are also summarized in Appendix C. In addition, PG&E has developed numerous programs, plans, and procedures to implement the requirements. These programs and plans are described in detail in the discussion for Impact HAZ-8 and are briefly summarized below.

- PG&E has implemented a **Quality Assurance (QA) Program** (PG&E, 2016a and PG&E, 2016b) that is applicable to all aspects of DCPP and DCPP ISFSI operations. The purpose of the PG&E QA Program is to provide assurance that the design, construction, and operation of DCPP is in conformance with applicable regulatory requirements.
- PG&E's **Radiological Protection Program** (PG&E, 2016c) includes numerous detailed plans and procedures that are implemented through comprehensive training and certification programs to ensure that employees are qualified and capable of conducting all operations safely and in compliance with applicable regulations. The program also includes:
  - The ***Radiological and Environmental Monitoring Program*** which monitors for radioactive contamination in the environment.
  - ***Effluents Control Program*** administered in accordance with the *Offsite Dose Calculation Manual* which regulates and monitors radioactive effluents during nuclear operations, and throughout decommissioning.
  - ***Groundwater Protection Initiative*** which establishes standards for sampling and reporting groundwater monitoring established in 2006 by Nuclear Energy Institute (see Section 4.10.1.2.2 *Groundwater*).
  - ***ALARA Program*** (NRC, 2006) which requires the reduction of radiation exposure to ALARA for site-wide activities and includes both decommissioning and routine operational activities. The program also requires that PG&E adopt reasonable measures to reduce the potential for radiation exposure to ALARA for both workers and the public.

All personnel (PG&E employees and contractors) that enter RCAs receive extensive radiological training to ensure that each person who requires access to the RCAs, or who may be involved with radiological activities, understands their responsibility to minimize their own dose and to comply with radiological protection procedures.

All nuclear activities that occur at DCPP are overseen by the NRC. The NRC has installed two resident inspectors at DCPP to conduct inspections, monitor significant work projects, and interact with plant workers and the public (NRC, 2022c). The NRC also conducts periodic, regular inspections covering the requirements contained, in part, in 10 CFR Part 73.55 include access authorization, access control, security equipment testing, security force training, inspection of physical barriers, and intrusion detection and alarm assessment monitoring systems, among other areas.

The NRC's routine inspections of power reactor security include evaluations of the licensee's ability to protect the plant from the design basis threats of radiological sabotage, theft, and diversion. These evaluations, which have been conducted since 1992, are realistic mock attacks that challenge the plant's security force and systems. Since 2004, these NRC-evaluated exercises have been fully integrated with the inspection program for physical protection.

Operators such as PG&E are also subject to inspection and evaluations of their MC&A programs. NRC regulations in 10 CFR Part 74 include general reporting requirements applicable to anyone who possesses, transfers, or receives quantities of Special Nuclear Material. NRC regulations also require licensees to keep complete records of receipt, transfer, and inventory of all Special Nuclear Material; to develop and follow written procedures that are adequate to account for and control all Special Nuclear Material possessed; and to perform periodic physical inventories.

The combination of the well-defined and documented requirements, combined with the detailed plans and programs to make sure the requirements are met (including qualifications, training, monitoring and oversight) provide a strong basis for the conclusion that regulatory requirements would be met, and the likelihood of non-compliance is less than significant (Class III).

Railyards

Pismo Beach Railyard. No radiological waste would be shipped to this facility. No impact would occur.

SMVR-SB. As described for Impact HAZ-8, during Phase 1 LLRW may be hauled by heavy truck or heavy-haul transporter directly out of state for disposal or to the SMVR-SB site (for transport out of state via rail for disposal. This could possibly result in low level exposures to the public, or occupational exposures to workers that exceed regulatory standards in the event of an accident or spill. Studies completed by the NRC in the 2002 GEIS (NRC, 2002b) and PG&E (PG&E, 2020b) found that the radiological risks associated with LLRW transportation were very low, and that doses to both workers and the public were well below NRC standards (see Appendix G2). PG&E would comply with all applicable NRC and DOT regulations, including Federal Railroad Administration regulations and requirements. PG&E would use approved packaging and shipping containers for all waste shipments and would comply with state regulations enforced by Caltrans and California Highway Patrol. Therefore, impacts related to compliance with Federal regulations applicable to the storage and transfer of radiological materials would be less than significant (Class III).

Phase 2

DCPP Project Site

ISFSI operations are anticipated to continue through Phase 2 and beyond but are not discussed further here because they are not part of the Proposed Project. Operation of the ISFSI would occur with or without decommissioning of the DCPP site.

As described for Impact HAZ-8, by the end of Phase 1 the DCPP Unit 1 and Unit 2 areas would be decommissioned, the Discharge Structure would be removed and restored (may extend into Phase 2), and most of the other above-grade and below-grade structures would be demolished and decommissioned. All LLRW would have been transported to disposal facilities offsite, and all SNF and GTCC waste transferred to the ISFSI and GTCC Waste Storage Facility for long-term storage.

Decommissioning activities during Phase 2 include additional soil remediation of any remaining radiological and non-radiological impacted soils, demolition of remaining utilities and structures,

soil grading and landscaping, and long-term stormwater management, as well as closure of the Intake Structure. Because all soil remediation and other activities necessary to comply with NRC License Termination requirements would be completed during Phase 1 for the Firing Range, Power Block, Discharge Structure Area (may extend into Phase 2), and East Canyon Area, it is expected that Phase 2 remediation and demolition activities would generally be limited to non-radiological materials. Phase 2 would also include the completion of FSS to confirm that the DCPP site would meet the radiological requirements to terminate the NRC Part 50 facility operating licenses.

In the event radiological materials are discovered during the FSS, the same industry-standard methods and techniques employed during Phase 1 would be used, as described for Impact HAZ-8, thereby limiting the possibility and consequences of radiological impacts.

As part of Phase 2, PG&E would continue to minimize fugitive dust, and control erosion and runoff through the site-specific SWPPP and CGP requirements (ACs AQ-1, BIO-3, and WQ-1). All activities would be performed in compliance with applicable regulatory requirements and impacts would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. GTCC waste includes those wastes with concentrations of radionuclides which exceed the limits established for Class C Low-Level Radioactive Waste. For the Project, the GTCC waste inventory includes GTCC waste that has been generated throughout normal operations of the DCPP units and the GTCC waste that would be generated during RPV internals segmentation (DCDEP, 2022). A revised OCA will be established (see Figure 2-7), and all maintenance and surveillance activities at the GTCC Waste Storage Facility would be performed in accordance with a Radiological Protection Program designed to ensure that any exposure to the public or occupational workers would comply with the requirements of 10 CFR Part 20, as described in Section 4.10.4.2. The radiological impacts associated with operation of the new GTCC Facility would be less than significant (Class III).

Future Actions. Marina operations, if applied for and approved under separate permit, would include boating activities and construction and operation of the ancillary structures, parking lots, and public restroom facilities. These activities would not involve radiological materials and would be located sufficiently away from the revised OCA where radiological materials are stored. There would be no impact related to the risk of release of radioactive materials (No Impact).

Mitigation Measures for Impact HAZ-12. No mitigation measures are required.

4.10.5 Cumulative Impact Analysis

Geographic Extent Context

The geographic scope of the cumulative effects analysis for hazards and non-radiological materials is limited to the DCPP site, railyards, and the routes used for transporting materials to and from these sites. The primary location is the DCPP site, which occupies a 750-acre NRC-

licensed site within PG&E's approximately 12,000-acre owner-controlled property on the California coast in central San Luis Obispo County (see Figure 2-2). The site includes both the facilities and structures that would be removed during decommissioning, and the ISFSI that would continue to operate with or without the Proposed Project. Geographic concerns were evaluated in the 2002 GEIS on decommissioning (NRC, 2002b). Geographic context may be important in the evaluation of radiological impacts, to the extent that off-site emissions may be involved. Geographic context may also be important to the evaluation of the transportation impacts, because those impacts are dependent on the number of shipments to and from the facility, the type of shipments, the distance that material is shipped, and the quantities and disposal plans for radiological and non-radiological waste.

The cumulative projects listed in Table 3-1 that are considered for cumulative impacts related to hazards and non-radiological materials include:

Diablo Canyon Power Plant

- Orano System ISFISI Modifications (#1)
- Communications Facility (#2)
- Avila Beach Drive at Highway 101 Interchange (#3)
- Flying Flags Campground (#4)
- Bob Jones Trail Construction (#5)
- Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6)

Pismo Beach Railyard

- Signal at Bello and Price Canyon Road (#7)
- U.S. 101 Pismo Congestion Relief Project (#8)
- Public Safety Center (#9)
- Bello Road Paving (#10)
- Price Street Sidewalk Pavers (#11)
- Realign Frady Lane (#12)
- Storm Drain on Wadsworth from Bello to Judkins Middle School (#13)

In Vicinity of Truck Route (City of Santa Maria)

- Westgate Marketplace (#14)
- SerraMonte Townhomes (#15)
- Workforce Dormitories (#16)

SMVR-SB – Betteravia Industrial Park (County of Santa Barbara)

- Highway 101 – Betteravia Road Interchange (#17)

As discussed in Section 3.3.2, *Relevant Cumulative Projects*, only one project at the DCPP site is planned that involves radiological materials and could increase the risk of radiological exposures: Orano System ISFSI Modifications (#1). That project is the modification of the existing DCPP ISFSI to accommodate a switch from the Holtec upright SNF storage casks to the Orano horizonal storage module system. The ISFSI is an NRC regulated facility with a separate operating license than the DCPP's CFR Part 50 operating licenses for each reactor. The continued operation and

modification of the ISFSI is not part of the Proposed Project (see Section 1.2.2, *ISFSI Approval and Cask Design*).

Cumulative Impact Analysis

Hazardous Materials

Phases 1 and 2

Public access to DCPP is restricted and site activities related to on-site hazardous materials handling during decommissioning would not affect the general public during decommissioning. All hazardous material handling, transport, and offsite disposal would be subject to existing DOT and DCPP facility hazardous waste permit requirements. The transport of hazardous materials would increase temporarily during the Proposed Project. The existing DCPP Hazardous Materials Business Plan and the implementation of MM HAZ-1 **(***Facility Hazardous Waste Permit Extension*), would ensure that response strategies, including proper procedures for handling, storing, and managing accidental spills or release of hazardous materials are in place. Any potential impacts would be localized and are not expected to result in a cumulatively considerable impact.

During Proposed Project activities, as well as Phase 2 operations, hazardous materials such as vehicle fuels, oil, hydraulic fluid, and other maintenance fluids would be used and stored in staging yards and at the dock locations to support ongoing marine activities. These hazardous materials could be released during decommissioning from accidents or leaking equipment or vehicles. Spills and leaks of hazardous materials could result in soil or groundwater contamination. Leaks from equipment used offshore (barges and cranes) could adversely affect marine waters. Adherence to the DCPP SPCC Plan and SWPPP would reduce impacts related to possible hazardous waste spills, but not to a less-than-significant level. MM HWQ-1 (*Long-Term Erosion and Sediment Control Plan*) ensures any runoff from the new parking lots or restroom facilities would be controlled and treated. Additionally, as required by MM HWQ-2 (*Clean Marina Lease Provisions*), PG&E would be required to include clean marina provisions in any future lease for the Marina's use. As such, impacts from accidental releases would not be cumulatively considerable.

MM HAZ-2 (*Worker Registration/Certification*) requires workers to have the required registrations to remove asbestos, lead-based paint, and other hazardous materials. This would reduce the potential to expose workers to hazardous materials from mobilization of existing soil or groundwater contamination as workers would be trained and certified to handle hazardous materials. With the implementation of MM HAZ-2, impacts related to exposure from existing hazardous materials would not result in a cumulatively considerable impact.

During the removal of below ground structures and adjacent soil, contaminated soil and groundwater may be encountered. Contaminated soil may be encountered below asphalt, where leaks and spills have reached the underlying soil. Unanticipated soil contamination could exist in many areas of the DCPP facility and include gasoline and diesel fuel residuals, heavy metals, solvents, oil, PCBs, or other hazardous materials. While the required SWPPP would partly address the excavation, handling, and disposal of contaminated soil, additional mitigation is required to fully protect workers from unknown soil contamination. If field screening and laboratory data are not properly interpreted, environmentally contaminated soil could be improperly handled and

disposed of, resulting in additional environmental contamination or exposure of workers to non-radioactive contaminated materials. MM HAZ-3 (*Soil and Groundwater Site Characterization Work Plan*) requires the preparation of a Soil and Groundwater Site Characterization Study, which would require subsurface soil and groundwater sampling; an investigation work plan, including boring and sampling locations, to investigate where known and suspected soil and groundwater contamination may be present; Identification of the limits of contamination based on the results of the soil and groundwater testing; and a Soil Management Plan for the identification and disposal of potentially contaminated soil. Implementation of MM HAZ-3 would mitigate the Proposed Project's adverse impacts related to unknown contaminated soil and groundwater, and worker exposure to hazardous chemicals and would not be expected to result in a cumulatively considerable impact.

The DCPP site maintains compliance with the existing DCPP facility hazardous waste permit for hazardous material handling, transport, and disposal, and would be obtaining permit renewals to incorporate the Project timeframe (MM HAZ-1). The Proposed Project would not create a significant hazard to the public or the environment and would not be expected to result in a cumulatively considerable impact.

The DCPP site maintains compliance with applicable codes and standards for fire detection, suppression, and response. Phase 1 and 2 activities would not exacerbate the risk of fire because the overall activity at the DCPP site would decrease from existing operations. Implementation of the DCPP Wildfire Safety Policy and compliance with the Wildfire Mitigation Matrix, which is part of the Wildfire Safety Policy (see Section 4.17, *Wildfire*, and Table 2-2 in Section 2.2.4, *Ongoing Safety and Environmental Activities*), would minimize the risk of accidental wildfire ignition during removal, modification, and maintenance of infrastructure at the DCPP. The primary fire protection service provider at the DCPP would change from the DCFD to the CAL FIRE/County Fire, as outlined in the Decommissioning Operational Plan and the Transition Plan (See MMs PSU-1 and 2). MM PSU-1 would require PG&E to identify the applicable plans, update them to address decommissioning, record applicable specific recommendations during Project activities, and provide proof of implementation to the County. MM PSU-2 is required to maintain an acceptable level of service at the DCPP site, surrounding area, and Avila Beach. The Proposed Project would not introduce a new wildland fire hazard and would not be expected to result in a cumulatively considerable impact.

Radiological Materials

Phase 1

As noted above, the only other project involving radiological materials is proposed modifications to the ISFSI related to the dry cask storage system (Orano System ISFSI Modifications, #1). PG&E selected the Orano NUHOMS EOS System (Orano System) due to its design meeting DCPP-specific parameters such as seismic requirements, high heat load, and an 80-year design life (Stantec, 2022). Furthermore, the Orano System is expected to reduce worker exposure to radiation to half of the dosage related to the Holtec System, because Orano's system can store five more fuel assemblies in each canister and has a shorter loading and transportation duration (see Appendix G1). As such, this represents a decrease in the potential for cumulative radiation exposure. When combined with the Proposed Project, which was determined to have less than significant impacts

so long as decommissioning was performed in compliance with NRC rules, regulations, and standards, the radiological impact would not be cumulatively considerable.

Phase 2

During Phase 2, any remaining radiological materials would be removed from the DCPP site. There are no identified cumulative projects that could result in a cumulative impact and the Proposed Project's impacts are less than significant. Therefore, radiological impacts would not be cumulatively considerable.

Post-Decommissioning Operations

During Phase 2, all radiological materials would be removed from the DCPP site except for material in the GTCC Waste Storage Facility. There are no identified cumulative projects that could result in a cumulative impact and the Proposed Project's impacts are less than significant. Therefore, radiological impacts would not be cumulatively considerable.

4.10.6 Summary of Significance Findings

Table 4.10-11 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project.

Table 4.10-11. Summary of Impacts and Mitigation Measures – Hazardous and Radiological Materials

	Impact Significance Class				
	Phase 1		Phase 2	Post-Decom	
Impact Statement	***DCPP***	***PBR/SB***	***DCPP***	***Ops/Marina***	**Mitigation Measures**
HAZ-1: Expose people to hazardous materials or create soil and/or groundwater contamination due to accidental spills or release of hazardous materials	II	III/III	II	NI/II	**HAZ-1:** Facility Hazardous Waste Permit Extension **HWQ-1:** Long-Term Erosion and Sediment Control Plan **HWQ-2:** Clean Marina Provisions
HAZ-2: Expose workers to hazardous materials from mobilization of existing soil or groundwater contamination	II	NI/NI	II	NI/NI	**HAZ-2:** Worker Registration/ Certification **HAZ-3:** Soil and Groundwater Site Characterization Work Plan
HAZ-3: Expose workers and the public to Valley Fever due to mobilization of Coccidioides fungus spores in construction related dust	III	NI/NI	III	NI/III	None required
HAZ-4: Expose sensitive receptors at existing or proposed schools to hazardous materials or hazardous waste	NI	III/NI	NI	NI/NI	None required
HAZ-5: Result in aviation hazards for people residing or working near an airport	NI	NI/NI	NI	NI/NI	None required

Table 4.10-11. Summary of Impacts and Mitigation Measures – Hazardous and Radiological Materials

	Impact Significance Class				
	Phase 1		Phase 2	Post-Decom	
Impact Statement	***DCPP***	***PBR/SB***	***DCPP***	***Ops/Marina***	**Mitigation Measures**
HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	III	III/III	III	III/III	None required
HAZ-7: Trigger a wildland fire exposing structures and people to significant risk of loss, injury, or death	II	III/III	II	NI/III	**PSU-1:** Facility Plan Updating, Tracking, and Reporting **PSU-2:** Retain the Diablo Canyon Fire Department and Emergency Facilities
HAZ-8: Release of radioactive materials during decontamination and dismantlement activities	III	NI/III	III	NI/NI	None required
HAZ-9: Release radioactive air-borne concentration to the environment greater than regulatory limits	III	NI/III	III	NI/NI	None required
HAZ-10: Increase radioactivity concentrations in soil or groundwater to a level that exceeds decommissioning criteria	III	NI/III	III	NI/NI	None required
HAZ-11: Expand the existing or create a ground water radioactive plume that could contaminate potable water	III	NI/III	III	NI/NI	None required
HAZ-12: Cause non-compliance with Federal regulations applicable to storage, use, or transfer of radiological materials	III	NI/III	III	NI/NI	None required
Cumulative Impact	Not cumulatively considerable		Not cumulatively considerable		None required

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long-Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

4.11 Hydrology and Water Quality

This section describes the known hydrology and water quality conditions in the project area, including at the Diablo Canyon Power Plant (DCPP) site, the Pismo Beach Railyard (PBR), and the Santa Maria Valley Railyard Facility (SMVR) in Santa Barbara County at Betteravia Industrial Park (SMVR-SB). This section also describes applicable rules and regulations pertaining to water resources that could affect the Proposed Project, identifies applicable significance thresholds, analyzes how the Proposed Project may impact existing conditions, and recommends measures to avoid or substantially reduce any effects found to be potentially significant.

Scoping Comments Received. During the scoping comment period for the Environmental Impact Report (EIR), written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and considered in preparing this section:

- Assess the impacts of wastewater treatment and ocean effluent discharges in absence of the current high volume water discharge and address impacts of continued discharge of hot water released into the marine ecosystems.
- Analyze water runoff impacts to ocean water quality during decommissioning and conduct regular water sampling in the waters off Diablo Canyon for the duration of the decommissioning project.
- Address the potential for toxins in groundwater and if the groundwater aquifer can produce required water supplies during peak decommissioning activities.

4.11.1 Environmental Setting

The Proposed Project includes the DCPP, PBR, and SMVR-SB sites, all located on the Central Coast of California. The DCPP site is located within unincorporated San Luis Obispo County adjacent to the Pacific Ocean. Approximately two-thirds of the DCPP site is within the coastal zone and approximately one-third is outside the coastal zone (see Figure 1-3). The PBR site is located within the City of Pismo Beach, with the very southern portion of the PBR site within the coastal zone. The SMVR-SB site is located within unincorporated Santa Barbara County and is not within the coastal zone. Generally, the climate on the Central Coast is mild year-round, with temperature highs averaging 80 degrees Fahrenheit (°F) in the summer months and 60°F in the winter months. Rainfall is highly seasonal, with 80 percent of the average annual 17 inches of precipitation near the DCPP site falling between December and April (San Luis Obispo, 2011; San Luis Obispo, 2020).

4.11.1.1 Diablo Canyon Power Plant Site

Surface Water Hydrology

The DCPP site is approximately 7 miles northwest of Avila Beach, with the Pacific Ocean to the west and southwest. Elevations range from sea level to approximately 1,115 feet. The site comprises a 750-acre high security zone within PG&E's approximately 12,000-acre owner-controlled land.

The DCPP site is located within the Irish Hills Coastal Watershed (SLO Watershed Project, 2021). The Irish Hills Coastal Watershed drains 27,922 acres or approximately 44 square miles. The Irish Hills Coastal Watershed is in the San Luis Range, along the remote San Luis Obispo County coastline between the communities of Los Osos and Avila Beach. The drainages rise to a maximum elevation of 1,819 feet above sea level at Saddle Peak. The major creeks with the headwaters in the Coastal Range Mountains that flow to the Pacific Ocean are Hazard Canyon Creek, Islay Creek, Coon Creek, Diablo Creek, Irish Creek, Rattlesnake Creek, Hanford Creek, and Wild Cherry Canyon Creek. The watershed is dominated by grazing lands, some of which are in conservation or agricultural easements, and public lands. In addition to DCPP, other land uses within the watershed include passive recreation, natural resource preservation, and limited oil drilling. The Central Coast Regional Water Quality Control Board (CCRWQCB) uses a watershed classification system that divides surface waters into hydrologic units (HUs). The DCPP site is in the Estero Bay HU 10.

Diablo Canyon Creek flows west out of the Irish Hills and passes through the DCPP site along the northern edge of the developed industrial areas. At one point, it enters an underground culvert (for approximately 2,714 linear feet) that passes beneath the 230 kilovolts (kV) and 500 kV switchyards northeast of Units 1 and 2 before daylighting to an open channel that extends along the western edge of the developed area of the DCPP site (i.e., western edge of Parcel P, see Figure 2-2) and drains directly into the Pacific Ocean (PG&E, 2021a). Stormwater runoff within the developed portions of the DCPP site flow to Diablo Creek or directly to the Pacific Ocean. The DCPP utilizes a once-through cooling (OTC) water system for DCPP operations whereby seawater is drawn from the Pacific Ocean through the shoreline Intake Structure located south of the main power plant and used to cool plant components. Seawater is then discharged back to the Pacific Ocean at the Discharge Structure located along the shoreline of Diablo Cove. Total OTC flow of seawater during routine full power operations is 1,772,000 gallons per minute (gpm), equivalent to 2.55 billion gallons of seawater circulated per day.

A seawater reverse osmosis (SWRO) treatment system provides the majority of freshwater for DCPP's primary and secondary systems makeup, fire protection system supply water, and source water for the DCPP drinking water system supply. The SWRO is supplied with raw seawater drawn from the OTC system intake and has the capacity to produce 450 gpm of freshwater, equivalent to 648,000 gallons of water per day.

Groundwater Hydrology

According to information provided by the California Department of Water Resources (CDWR), the DCPP site is not located in an area with a designated groundwater basin (CDWR, 2021a). Furthermore, according to the US Geological Survey (USGS, 1995), no significant aquifers exist in the area. The nearest groundwater basin is Los Osos Valley, located several miles north of the DCPP site. The primary aquifer supplying groundwater to the DCPP site is the fractured sandstone of the Obispo Formation (ENTRIX, Inc. [ENTRIX], 2008). This unit also contains siltstones and finer grained beds that are less productive. The brittle sandstones have discrete water-bearing fractures. Because the bedrock aquifer is relatively hard and locally brittle, essentially all groundwater production is supplied from fractures, not from pore spaces between sand grains as occurs in unconsolidated aquifers.

The DCPP site has several on-site wells that are used for monitoring purposes, but only one active permitted water supply well (Well #2) is in Diablo Canyon. This well supplements the site's freshwater source (the previously discussed SWRO system), which supplies water to the raw water storage reservoirs used primarily for fire water and drinking water. This well is permitted through the San Luis Obispo County Health Department. The well is only used as needed, which equates to approximately 2 weeks (or approximately 350 hours) per year on average with a pumping rate of approximately 150 gpm. When pumping, the well draws from an isolated source specific to DCPP. The topography of the location limits any potential connection between the well source water and off-site water resources. There are no neighboring wells (outside of the DCPP site and adjacent owner-controlled property) that could be adversely affected or rendered unusable due to operation of the on-site well.

Based on a review of existing groundwater level data for the DCPP site, groundwater flows generally to the southwest towards the Pacific Ocean (ENTRIX, 2010). In 2021, transducers were deployed at Well #2, Well #4, and three locations within Diablo Creek to monitor water levels (PG&E, 2021a). Based on this study, pumping water from Well #2 did not affect water levels at Diablo Creek, indicating no adverse effect at the creek due to groundwater withdrawal from Well #2. These results are consistent with previous studies (ENTRIX, 2008).

For current DCPP operations, freshwater demand is met from SWRO and groundwater from Well #2. Over the past 5 years, the average annual freshwater demand at DCPP has been approximately 101 million gallons, of which 90 million gallons have been for power production and the remaining 11 million gallons have been for domestic water supply. The demand has been met primarily through SWRO with some blending via groundwater from Well #2.

As described in Section 2.3.20, *Water Management, including Management of the Seawater Reverse Osmosis Facility and Liquid Radioactive Waste*, water demand from 2024 to 2039 (covering Phase 1 and Phase 2) would be met using existing plant equipment (i.e., SWRO through 2034 and Well #2 throughout decommissioning) and then on-site groundwater post-2034, when mostly all demolition activities are complete. As shown in Figure 2-34, DCPP water needs are expected to increase from about 5.5 million gallons annually in 2028 to approximately 32 million gallons annually from 2030 to 2034. At the end of 2034, the SWRO would shut down, and on-site water needs for decommissioning would be met via groundwater extraction. Starting in 2035 and through post-restoration performance monitoring (2039), water use is projected to decrease and level out at 764,000 gallons per year for completion of the remaining decommissioning activities and vegetation watering. Well #2 has been shown to have adequate capacity to meet this water need; however, additional on-site wells such as Well #5 may be used. Post-decommissioning (after 2039), annual water demand for ISFSI and GTCC Waste Storage Facility operations would level out at approximately 215,000 gallons per year and met through groundwater extraction. Bottled water (i.e., Culligan Water) would continue to be trucked in for drinking purposes as is currently done at the DCPP site.

Surface Water and Groundwater Quality

Surface water quality is monitored according to conditions specified in the National Pollution Discharge Elimination System (NPDES) Permit No. CA0003751, Order 90-09 for the DCPP (CCRWQCB, 1990). This NPDES Permit and Order authorizes discharge of brine and treated waste-

water through dilution into the auxiliary cooling water system, which discharges approximately 2.55 billion gallons of water per day to the Pacific Ocean. Smaller amounts of in-plant chemical wastes, low-level radioactive waste, and stormwater runoff are also discharged. These discharges are tested for pollutants and other water quality parameters to achieve compliance with the regulations, and all discharges are logged and reported to the CCRWQCB. Discharges not authorized by this permit are considered a violation of the NPDES Permit and the Clean Water Act and are subject to penalties by the CCRWQCB.

DCPP also has an active Stormwater Industrial General Permit (IGP), Waste Discharge Identification Number (WDID) 3 40I018248, issued by the State Water Resources Control Board (SWRCB), which authorizes discharges of industrial stormwater to waters of the United States. The IGP requires periodic sampling of industrial stormwater discharges and visual monitoring throughout the year. Results of these monitoring efforts are reported annually to the CCRWQCB and SWRCB.

Temperature data reported in the 2019 NPDES Permit receiving water monitoring annual report show that seawater temperatures in the nearshore areas around the DCPP site are generally coolest from February through May and warmest from August through November (PG&E, 2022a). During this year, monthly average ambient seawater temperatures at a monitoring station downcoast from the Intake Cove at a depth of -10 feet mean lower low water ranged from 53.2°F in April to 58.5°F in November. Daily average temperatures of seawater from the Intake Cove in 2019 ranged from 49.5°F to 60.5°F, with an average of 58.5°F.

In addition to water quality monitoring, an industrial stormwater pollution prevention plan (SWPPP) is implemented at the DCPP site. This plan identifies and assesses potential sources for pollutants at the DCPP site that may affect water quality and applies site-specific best management practices (BMPs) to reduce or prevent pollutants in industrial stormwater discharges and authorized non-stormwater discharges (PG&E, 2015).

In accordance with the Nuclear Energy Institute 07-07 Groundwater Protection Initiative, tritium monitoring in groundwater at the DCPP site began in 2006 as part of the Radiological Environmental Monitoring Program (PG&E, 2020a). Groundwater is sampled at several on-site wells, including Well #2, to monitor tritium. Results of the Radiological Environmental Monitoring Program are submitted to local, state, and federal agencies on an annual basis via the Annual Radiological Environmental Operating Report.

From 2006 through 2008, tritium was found to "wash-out" during rain events due to gaseous releases from the plant vents (direct rain collection and building downspouts). Tritium was found to concentrate in stagnant water due to diffusion in air from the plant vents and in condensation of air moisture in proximity to the DCPP site vents. Subsequent monitoring consistently measured tritium levels in excess of the Lower Limit of Detection (400 picocuries per liter) within French drains beneath the DCPP site's powerblock (PG&E, 2020a). The low levels and the location of the tritium found in groundwater at DCPP do not indicate a leak from the spent fuel pool or any other plant equipment source of tritium. Instead, the low levels are consistent with minor tritium "wash-out" during rain events.

The DCPP site's Radiation Protection personnel undertook a review of the hydrogeologic environment and the potential threat to drinking water supplies. The only groundwater that is used for drinking water at the DCPP site is pumped from Well #2, located east of the DCPP site at a

ground elevation of 333 feet mean sea level (MSL). This is considerably higher than the ground elevation of the Power Block at 85 feet MSL. Well #2 draws from an isolated source specific to Diablo Canyon that is replenished by flows through the alluvium. Potential releases of tritiated water from the DCPP site cannot lead to any drinking water source due to overall site hydrogeological characteristics, and the higher elevation of the aquifer replenishing the location tapped by the deep water well. A comparison of the static water level and the pumping water level of Well #2 and the Power Block wells showed that Well #2 could not draw water from the Power Block area, even during intensive pumping during drought conditions (ENTRIX, 2010). Thus, the DCPP site's Radiation Protection analysis concluded that the DCPP site releases of tritiated water, should they occur, would not affect drinking water sources because there is no groundwater under the DCPP site that would lead to sources of drinking water. No plant-related tritium has been detected in drinking water.

Based on the aforementioned assessments and environmental staff evaluation, it was concluded that there is no potential for waters originating at the DCPP site to contaminate domestic water supplies regulated, owned, managed, or certified by state and local governmental bodies.

Flooding

The DCPP site has no history of flooding. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No. 06079C1303H, the DCPP site is not located within a special flood hazard area (FEMA, 2017a). Other than the shoreline, the DCPP site is in Zone X, which is composed of areas with minimal flood hazards that are above the elevation of the 0.2 percent annual chance (or 500-year) flood. Along the shoreline, the coastal flood elevation ranges from 22 to 39 feet MSL, which is below the elevation of DCPP Units 1 and 2 (85 feet MSL). Based on a regional regression analysis (Waananen and Crippen, 1977), the 100-year discharge of Diablo Creek is approximately 1,000 cubic feet per second (cfs). Dry season flows occur as a result of groundwater seepage. Flows tend to be on the order of 0.3 cfs.

4.11.1.2 Pismo Beach Railyard

Surface Water Hydrology

The PBR site is located within the Pismo Creek Watershed (SLO Watershed Project, 2021), which drains 26,030 acres or approximately 41 square miles. The Pismo Creek Watershed is a coastal basin located in southern San Luis Obispo County, with a maximum elevation of 2,865 feet above sea level.

The PBR site slopes west to east and drains into a man-made canal along the eastern boundary of the site, ultimately draining into the Pismo Creek channel and finally to the Pacific Ocean approximately 1 mile west of the PBR site. The Pismo Creek Watershed has three major tributary basins with their headwaters in the Santa Lucia Mountains: West Corral de Piedra, East Corral de Piedra, and Cañada Verde. A fourth significant tributary, Cuevitas Creek, enters Pismo Creek from the west in lower Price Canyon. The mouth of Pismo Creek enters the Pacific Ocean in the dune region of Pismo Beach. The watershed is dominated by agricultural land uses in its upper reaches, including vineyards, ranches, and row crops. The urban core of the City of Pismo Beach is adjacent to the Pismo Creek Estuary. Other land uses within the Pismo Creek Watershed include the Cold

Canyon Landfill, Price Canyon Oilfield, and the City of Pismo Beach's wastewater treatment plant. The PBR site is in the Estero Bay HU 10, which is the same as the DCPP site.

Groundwater Hydrology

According to information provided by the CDWR, the PBR site is not located in a designated groundwater basin (CDWR, 2021a). Groundwater in the Pismo Creek Valley occurs primarily within the shallow alluvium and the underlying Paso Robles Formation. Aquifers in the shallow alluvium are unconfined and are underlain by one or more confined aquifers. Depth to groundwater beneath the PBR site is unknown, and the groundwater flow direction is assumed to be to the west toward the Pacific Ocean and/or southwest toward the Pismo Creek treatment plant.

Surface Water and Groundwater Quality

As previously described, the Pismo Creek Watershed where the PBR site is located includes a number of land uses, including a regional landfill, oil drilling, and a wastewater treatment plant. Oil drilling and landfill land uses are located upgradient from the PBR site, and the wastewater treatment facility is located downgradient. Groundwater sampling has not been conducted at the PBR site. The site is currently utilized as a laydown and staging area for local electrical service and vegetation management operations. The PBR site does not have a history of significant spills that would affect local groundwater quality. Previous groundwater monitoring within the Pismo Creek Valley indicated high total dissolved solids, sulfate, iron, and/or manganese above drinking water standards (San Luis Obispo, 2014).

Flooding

The majority of the PBR site is in a Special Flood Hazard Area Zone AE with a Base Flood Elevation that ranges from 35.9 to 39.6 feet MSL according to the FEMA FIRM No. 06079C1344H (FEMA, 2017b). Zone AE is an area with one percent annual chance (or 100-year) flood. The PBR site is adjacent to the floodway of the Pismo Creek channel. The western portion of the site, adjacent to Price Canyon Road, is not subject to flooding.

4.11.1.3 Santa Maria Valley Railyard Facility

Surface Water Hydrology

The SMVR-SB site is located within the Santa Maria Watershed (Conservation Biology Institute, 2021). The Santa Maria Watershed is in southern San Luis Obispo County and northern Santa Barbara County and drains approximately 33,205 acres or approximately 52 square miles (Santa Maria, 2020; SLO Watershed Project, 2021). The Santa Maria Watershed, which includes all tributaries of the Cuyama River, Sisquoc River, and Santa Maria River, rises to a maximum elevation of approximately 390 feet. The watershed generally drains to the west where it meets the Pacific Ocean by the City of Guadalupe. The watershed is dominated by residential and agricultural land uses, including ranches, row crops, greenhouses, and orchards. Other land uses within the watershed include recreation and oil production.

Groundwater Hydrology

The SMVR-SB site is located within the Santa Maria Valley Groundwater Basin (CDWR, 2021a). The basin has a surface area of approximately 184,000 acres, or 287.5 square miles, and is bounded on the north by the San Luis and Santa Lucia Ranges, on the east by the San Rafael Mountains, on the south by the Solomon Hills and the San Antonio Creek Valley Groundwater Basin, on the southwest by the Casmalia Hills, and on the west by the Pacific Ocean (CDWR, 2004). Groundwater is in alluvium, dune sands, and the Orcutt, Paso Robles, Pismo, and Careaga Formations. The basin is supplied with groundwater through infiltration of precipitation, inflow from adjacent areas, return flows from applied water (irrigation), and percolation of water from streams flowing across the Santa Maria Valley Groundwater Basin, particularly, the Arroyo Grande Creek to the north and the Santa Maria and Sisquoc Rivers in the south. Also, the Lopez Reservoir and the Twitchell Reservoir provide storage of stormwater for recharge of the basin. The total groundwater storage capacity of the basin is approximately 2,300,000 acre-feet (Santa Maria, 2020). Under the Sustainable Groundwater Management Act (SGMA), the basin is identified by the CDWR as a very-low priority basin (CDWR, 2021a).

Surface Water and Groundwater Quality

Pollutants of known concern in the Santa Maria Watershed include fecal coliform, nitrates, sediments, and ammonia in surface water; organochlorine pesticides in the Santa Maria River Estuary (located approximately 10 miles west of the City of Santa Maria); and petroleum production by-product (diluent) in ground and surface water of the Guadalupe Dunes (located directly north and south of the Santa Maria River mouth and estuary) and nearby areas (Santa Maria, 2020). The Santa Maria River is included on the Section 303(d) list for nitrate pollutants from agriculture, domestic animals/livestock, natural sources, and urban runoff/storm sewers. In addition, chloride, chlorpyrifos, cypermethrin, dichlorodiphenyldichloroethane (DDD), dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), diazinon, dieldrin, endrin, Escherichia coli (E. coli), fecal coliform, malathion, sodium, toxaphene, toxicity, and turbidity are listed pollutants for the Santa Maria River.

Groundwater quality varies throughout the Santa Maria Valley Groundwater Basin. Historically, the basin has had high nitrate concentrations, particularly near the City of Santa Maria and in the City of Guadalupe. High total dissolved solids, sulfate, or chloride content also affects groundwater quality in some parts of the basin (CDWR, 2004).

Flooding

The SMVR-SB site is not subject to flooding. According to the FEMA FIRM No. 06083C0170G, the SMVR-SB site is located within Zone X, which comprises areas with minimal flood hazard that are above the elevation of the 0.2 percent annual chance (or 500-year) flood (FEMA, 2012).

4.11.2 Regulatory Setting

The primary federal and state laws, regulations, and policies that are applicable to the Proposed Project are summarized in Appendix C. Local and regional laws, regulations, and policies are presented in this section.

San Luis Obispo County General Plan. The Conservation and Open Space Element of the San Luis Obispo County General Plan was adopted in May 2010 and amended in March 2015 (San Luis Obispo, 2010). Chapter 10, Water Resources, of the Conservation and Open Space Element outlines the goals, policies, and implementation strategies intended to recognize water as a valuable and scarce resource, take early actions to avoid critical situations, achieve a sustainable water supply, protect water quality and natural communities, and control flooding. Policies relevant to the Proposed Project are as follows:

> Policy WR 3.1 Prevent water pollution. Take actions to prevent water pollution, consistent with federal and state water policies and standards, including but not limited to the federal Clean Water Act, Safe Drinking Water Act, and NPDES (San Luis Obispo, 2010, p. 10.16).
>
> Policy WR 3.2 Protect watersheds. Protect watersheds, groundwater and aquifer recharge areas, and natural drainage systems from potential adverse impacts of development projects (San Luis Obispo, 2010, p. 10.17).
>
> Policy WR 3.3 Improve groundwater quality. Protect and improve groundwater quality from point and non-point source pollution, including nitrate contamination; methyl tertiary-butyl ether and other industrial, agricultural, and commercial sources of contamination; naturally occurring mineralization, boron, radionuclides, geothermal contamination; and seawater intrusion and salts (San Luis Obispo, 2010, p. 10.17).
>
> Policy WR 3.4 Water quality restoration**.** Pursue opportunities to participate in programs or projects for water quality restoration and remediation with agencies and organizations such as the RWQCB, California Department of Fish and Wildlife, National Marine Fisheries Service, and Resource Conservation Districts in areas where water quality is impaired (San Luis Obispo, 2010, p. 10.18).
>
> Policy WR 6.4 Integrated drainage approach**.** Assure that proposed development integrates ecosystem enhancement, drainage control, and natural recharge as applicable (San Luis Obispo, 2010, p. 10.27).

San Luis Obispo County Municipal Code. The Coastal Zone Land Use Ordinance, Title 23 of the San Luis Obispo County Code, was established to protect and promote public health, manage future growth of the County, and to protect and enhance the natural, historic, archeological, and scenic resources within the County (San Luis Obispo, 2021). The title applies to all land use and development activities within the unincorporated areas of San Luis Obispo County that are located within the coastal zone established by the California Coastal Act of 1976. Land use outside the coastal zone is regulated by standards provided in the Land Use Ordinance, Title 22 of the San Luis Obispo County Code.

Chapter 23.05, Site Development Standards, establishes standards for the preparation of sites for development and construction activities. This includes standards for grading and excavation activities to minimize hazards to life and property; protect against erosion and the sedimentation of water courses; and protect the safety, use and stability of public rights-of-way and drainage channels. Chapter 23.07, Combining Designations Standards, establishes construction standards for new structures or repairs to existing structures within the coastal zone. The DCPP site coastal bluff, including the Discharge Structure and Intake Cove areas, are within Flood Hazard Combining Designation (CD-FH) area covered by sections 23.07.060-23.07.066. Requirements of

section 23.07.065, General Hazard Avoidance, specifically apply to new structures and repairs in flood hazard areas. Section 23.05.042 requires that a drainage plan be approved by the County Department of Public Works prior to issuance of any construction permit.

City of Pismo Beach General Plan and Local Coastal Program. The City of Pismo Beach General Plan and Local Coastal Program was adopted in November 1992 and most recently amended in April 2014 (Pismo Beach, 2014). The Conservation and Open Space Element focuses on the natural resources of Pismo Beach and includes policies intended to guide the management of these resources to enhance the quality of life of residents and visitors and to prevent waste, destruction, haphazard exploitation, or neglect. Policies relevant to the Proposed Project include those regarding site design and source control BMPs, erosion, and watershed protection.

City of Pismo Beach Municipal Code. Chapter 13.28, Stormwater Quality Ordinance (Ord. O-2013-009 §1, 2013), of the City of Pismo Beach Municipal Code establishes regulations to protect and enhance the quality of watercourses and waterbodies by reducing pollutants in stormwater, prohibiting non-stormwater discharges to the storm drain system, and improving stormwater management (Pismo Beach, 2021). This chapter was developed to ensure consistency with the Clean Water Act and Porter-Cologne Act.

Santa Barbara County Comprehensive Plan. The Conservation Element of the Santa Barbara County Comprehensive Plan includes a Groundwater Resources Section, which provides background information and policy direction for the conservation, development, and utilization of groundwater resources in Santa Barbara County (Santa Barbara, 2009). The Groundwater Resources Section presents goals, policies, actions, and development standards intended to improve groundwater supply. Policies relevant to the Proposed Project are as follows:

> Policy 2.1. Where feasible, in cooperation with local purveyors and other groundwater users, the County shall act to protect groundwater quality where quality is acceptable, improve quality where degraded, and discourage degradation of quality below acceptable levels (Santa Barbara, 2009, p. 63).
>
> Policy 3.6. The County shall not make land use decisions which would lead to substantial overcommitment of any groundwater basin (Santa Barbara, 2009).

As described in Section 1.3.3.2, *Surface Transportation Board*, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction.

Santa Barbara County Municipal Code. Chapter 29, Article IV (Stormwater Management and Discharge Control) of the Santa Barbara County Municipal Code establishes regulations for controlling pollutants discharged to the storm drain system to comply with the NPDES permit process (Santa Barbara, 2021). The objectives of this article are to regulate pollutants discharged to the storm drain system, prohibit illicit connections and discharges to the storm drain system, and establish legal authority for inspection, monitoring, and enforcement procedures. As described in Section 1.3.3.2, *Surface Transportation Board*, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction.

4.11.3 Significance Criteria

For purposes of this EIR, the following thresholds, which are based on Appendix G of the California Environmental Quality Act Guidelines (Environmental Checklist) and Proposed Project conditions, were used to determine if the Proposed Project would result in impacts related to hydrology and water quality. The Proposed Project would have a significant impact if it would:

- Violate any water quality standards or waste discharge requirements, create substantial additional sources of polluted runoff, or require significant additional treatment of dewatered structures, systems, and components (SSCs).
- Otherwise substantially degrade surface or groundwater quality, for example, if activities result in increased turbidity in the marine environment; result in significant spills or other releases of oil, chemicals, and other toxic materials; or the deposition of marine debris from the demolition and removal of structures.
- Substantially decrease groundwater supplies or interfere with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.
- Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or through the addition of impervious services, in a manner which would:
  - Result in substantial erosion or siltation on site or off site;
  - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on site or off site;
  - 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
  - Impede or redirect flood flows.
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

4.11.4 Environmental Impact Analysis and Mitigation

Impact HWQ-1: Violate any water quality standards or waste discharge requirements, create substantial additional sources of polluted runoff, or require significant additional treatment of dewatered structures, systems, and components (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

General Construction Activities

Soils in the Project area are known to be contaminated with radioactive materials. Soil excavation and remedial activities increase the potential for soil erosion which may result in polluted runoff

to local waterbodies through stormwater or through wind borne dust if not adequately controlled. In addition, construction activities associated with decontamination and dismantlement of SSCs have the potential for releasing additional radioactive materials and contaminants into the soil, which could also produce additional sources of polluted runoff and dust if not adequately controlled. Chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste generated from the DCPP site and/or used by construction equipment may also spill or leak during decommissioning. If not adequately controlled, these pollutants have the potential to be transported via storm runoff into receiving waters.

PG&E would be required to implement several plans during construction to control sources of contaminants, limit erosion and dust, and prevent discharge of stormwater. At the time of application for construction permits, PG&E would be required to submit construction phasing plan(s), as applicable, for review and approval by County of San Luis Obispo Department of Planning and Building, in consultation with the Department of Public Works, to identify all plans required. Required plans include a site-specific SWPPP; Erosion and Sediment Control Plan; Spill Prevention, Control, and Countermeasure (SPCC) Plan; Grading Plan; and a Construction Drainage Plan (see MM HWQ-1, *Prepare and Implement Drainage Plans*).

*Site-Specific SWPPP and Erosion Control Plan***.** Because the Proposed Project would disturb greater than 1 acre of soil during construction, PG&E must comply with the requirements of the Construction General Permit (CGP; see Appendix C; AC WQ-1, *Construction General Permit*). The CGP requires development and implementation of a SWPPP. The SWPPP would be developed prior to the start of decommissioning activities and contain BMPs designed to minimize erosion during construction; control sediment and pollutants from construction materials; and prevent spills, leaks, and discharge to receiving waters. The SWPPP would define requirements for monitoring and inspections.

As discussed in Section 4.11.1, *Environmental Setting*, the DCPP currently operates under IGP WDID 3 40I018248 issued by the SWRCB, which authorizes discharges of industrial stormwater to waters of the United States. PG&E would maintain the existing IGP until cessation of power generation operations, at such time the IGP would transition to the CGP for decommissioning activities.

In addition, PG&E maintains NPDES Permit CA0003751, Order 90-09 for the DCPP (CCRWQCB, 1990), which addresses effluent discharged from plant operations to ensure there are no water quality impacts to receiving waters. PG&E would continue to monitor effluents during decommissioning activities in accordance with this NPDES permit. Under the permit, DCPP must meet effluent and receiving water limitations, develop and implement a SWPPP, and develop and implement a monitoring program to demonstrate compliance. PG&E has committed to developing a SWPPP for construction (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*). The SWPPP identifies potential stormwater pollutants and site-specific BMPs to reduce or prevent pollutants in industrial stormwater and authorized non-stormwater discharge. Example BMPs in the SWPPP may include the following:

- Designating areas for staging, refueling, maintenance, or washing equipment
- Use of secondary containment (i.e., drip pans)
- Daily inspections
- Ensuring availability of spill control kits, absorbent pads, and sandbags in case of spill

As part of the SWPPP, the Applicant would be required to submit complete erosion and sedimentation control plan(s) for review and approval in accordance with section 23.05.036 of the Land Use Ordinance. PG&E developed a Preliminary Erosion and Sediment Control Plan (PG&E, 2020b). This plan identifies BMPs to control erosion of soil and sedimentation from the site during grading and site restoration activities, including the following:

- Hydroseeding
- Tree protection
- Soil preparation/roughening
- Earth dikes, drainage swales, and slope drains
- Silt fence for perimeter control
- Fiber rolls along slopes and perimeter control
- Sediment traps, basins, and drainage inlet protection for treatment of runoff
- Stabilized construction entrance to work areas
- Tire washes at active work zones to remove sediment from construction vehicles

PG&E also developed a Draft Site Drainage Plan Drainage Report (PG&E, 2023b) and Preliminary Grading Plan (PG&E, 2023a), which provide detailed information on the existing site drainage. In addition, as part of the Proposed Project PG&E would implement several measures that directly reduce dust and limit the amount of disturbed area, where possible (AC AQ-1, *Minimize Fugitive Dust*), which in turn would also help reduce erosion from ground disturbance and limit the potential for stormwater contamination.

*Spill Prevention, Control, and Countermeasure (SPCC) Plan***.** In addition to the SWPPP, a Spill Prevention, Control, and Countermeasure (SPCC) Plan is required by 40 CFR 112 for facilities maintaining an inventory of more than 1,320 gallons of oil or oil-based products, which would apply to the DCPP site and therefore the DCPP Decommissioning Project. Therefore, PG&E would be required to develop a Project-specific Decommissioning SPCC Plan. The SPCC Plan would address oil spill prevention, control measures to ensure water quality standards would not be violated, and countermeasures to contain, cleanup, and mitigate the effects of a spill.

*Grading and Drainage Plans***.** A Preliminary Grading Plan for the DCPP site has been prepared to estimate the required amount of fill material needed on site through areas of cut (i.e., areas where the finished grade is lower than the existing grade) and re-use of clean, crushed on-site concrete derived through the demolition of structures (see Site Grading and Concrete Re-use Strategy Plan in Table 2-2). The Grading Plan would also address DCPP site drainage. As stipulated in MM HWQ-1, PG&E would also be required to develop a Construction Drainage Plan to San Luis Obispo County standards and address County Department of Public Works conditions of approval (San Luis Obispo, 2023), and that would need County Department of Public Works approval prior to construction. The Construction Drainage Plan would identify potential drainage issues and proposed methods for safely conveying containing storm runoff and preventing impacts to coastal water quality throughout construction. The Construction Drainage Plan must be prepared by a licensed civil engineer for review and approval in accordance with section 23.05.040 of the Land Use Ordinance. Also, the final site grading must meet Title 23 standards requiring all surface drainage to be retained on site via swales, retention basins, wetlands, etc.

PG&E must also adhere to the Nuclear Energy Institute Industry Ground Water Protection Initiative (Nuclear Energy Institute, 2007), which is applicable to decommissioning of a nuclear power plant. Compliance includes groundwater monitoring in accordance with the groundwater protection program to assure timely and effective management of situations involving inadvertent releases of licensed radioactive materials. As discussed in Section 4.11.2, *Regulatory Setting*, groundwater is currently sampled at several on-site wells to monitor tritium. Sampling results are submitted to local, state, and federal agencies on an annual basis via the Annual Radiological Environmental Operating Reports. Low levels and the location of the tritium found in groundwater at the DCPP site do not indicate a leak from the spent fuel pool or any other plant equipment source of tritium. Instead, the low levels are consistent with minor tritium "wash-out" during rain events, and activities during Phase 1 are not expected to contribute to groundwater tritium levels.

To ensure that the Construction Drainage Plan and Site Grading and Concrete Re-use Strategy Plan are implemented and adhered to throughout the duration of the Project, MM EM-2 (*Project Plan Updating, Tracking, and Reporting*) is required to reduce impacts to a less-than-significant level. MM EM-2 would require PG&E to identify the applicable plans, record applicable specific recommendations during Project activities, and provide proof of implementation to the County.

With implementation of MM HWQ-1 and MM EM-2, and development and implementation of the SWPPP and SPCC Plan, construction activities during Phase 1 at the DCPP site would not directly violate any water quality standards or waste discharge requirements and impacts would be reduced to less than significant (Class II).

Dewatering

Dewatering would be required if groundwater is encountered during the removal of existing in-ground structures and involves removing water from excavations, trenches, foundations, and surface water impoundments to enable the construction activity. Because the water removed as part of construction is often sediment laden, dewatering during Phase 1 could introduce pollutants to surface or ground waters if the water is discharged without treatment. If dewatering is required during decommissioning activities, the Proposed Project would be required to comply with the requirements of the Waste Discharge Requirements NPDES General Permit for Discharges with Low Threat to Water Quality (Order No. R3-2017-0042, NPDES No. CAG993001) which covers dewatering. The NPDES General Permit mandates compliance with receiving water limitations and establishes numeric action levels for pH and turbidity testing prior to discharge to protect surface water quality. If water removed via dewatering was found to exceed standards, the water would be treated prior to discharge using a groundwater collection and treatment system (GWTS) developed in the early stages of decommissioning. The GWTS would collect and process water from groundwater intrusion utilizing a combination of settling ponds and tanks or filtration equipment.

Compliance with the NPDES Permit and use of GWTS would ensure that construction activities during Phase 1 at the DCPP site would not require significant additional treatment of dewatered SSCs and impacts would be less than significant (Class III).

Railyards

Pismo Beach Railyard. The PBR site is a developed site that currently supports PG&E operations and has been used in the past for equipment storage and transport needs for the DCPP. Modifications to the PBR site would be limited to refurbishing approximately 1,100 feet of existing track. The majority of the PBR site is covered by impervious surfaces and this would not change during decommissioning activities; therefore, stormwater runoff would continue to be managed as it is under existing conditions. No below ground structures would be removed; therefore, dewatering would not occur. As such, use of the PBR site for decommissioning activities would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. The impact would be less than significant (Class III).

SMVR-SB. The SMVR-SB site is an existing industrial facility with storage and transportation infrastructure in place and no new development is anticipated; therefore, the Proposed Project would not alter drainage patterns. Modifications to the site are limited in scope (e.g., refurbishment of existing rail spurs, use of steel road plates or installation of engineered fill where existing base is degraded). Site modifications would not need to disturb more than 1 acre of soil; therefore, the SMVR-SB site would not likely be subject to the CGP. No below ground structures would be removed; therefore, dewatering would not occur. As such, use of the SMVR-SB site for decommissioning activities would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. The impact would be less than significant (Class III).

Phase 2

General Construction Activities

Similar to Phase 1, chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste generated from the DCPP site may be spilled or leaked during Phase 2 activities and have the potential to be transported via storm runoff into receiving waters. Impacts would be reduced through implementation of the construction Erosion and Sediment Control Plan for the DCPP site, SPCC Plan, and the SWPPP (see Table 2-2); as well as with designation of defined staging areas and access points for heavy equipment, secondary containment, and daily inspections (AC BIO-4, *Site Maintenance and General Operations*); the existing IGP; CGP (AC WQ-1, *Construction General Permit*); NPDES permits; and Nuclear Energy Institute Industry Ground Water Protection Initiative.

As part of final site restoration activities, PG&E would prepare a Stormwater Management Plan (SWMP) in accordance with the Low Impact Development requirements of the CCRWQCB, and any additional conditions as part of the 401 Water Quality Certification (see Table 2-2). The purpose of the SWMP is to implement long-term management of stormwater drainage from the site over the period of time required for revegetation to establish, and to minimize any sediment impacts from the site to Diablo Creek and the Pacific Ocean. The SWMP would further ensure that stormwater is controlled and would not result in excess erosion and runoff. To further ensure the Proposed Project would not violate any water quality standards or waste discharge requirements or create substantial additional sources of polluted runoff during and after Phase 2, MM

HWQ-1 and MM HWQ-2 are recommended, which require a Post-Decommissioning Drainage Plan and a Long-Term Erosion and Sediment Control Plan for the final surface conditions following demolition of all decommissioned structures. The Long-Term Erosion and Sediment Control Plan would be included in the SWMP. With implementation of the required plans, permits, and MMs (MM HWQ-1 and MM HWQ-2), impacts would be reduced to a less-than-significant level (Class II).

Leachate from Crushed Concrete Reuse

As described in Section 2.3.16.3, *Recycled Concrete*, demolition of structures, roads, and parking areas is expected to generate on the order of 225,000 cubic yards of clean concrete. Clean concrete would be reused on site as fill material. Clean concrete from demolition activities would be crushed into smaller sizes and then reused either directly or in various blended engineered fills to achieve a cut/fill balance with on-site materials. A Site Grading and Concrete Re-use Strategy Plan, listed in Table 2-2, was developed by PG&E to assess the different methods and locations where on-site recycled concrete could be used (PG&E, 2022c). MM EM-2 (*Project Plan Updating, Tracking, and Reporting*) would be required to ensure that this plan is updated and implemented.

Direct reuse of clean concrete without soil blending would only occur where the crushed concrete is isolated from stormwater and groundwater, specifically the water circulation tunnels associated with the Intake Structure and Discharge Structure. In these instances, the crushed concrete would be used as an aggregate and blended with cement to create a controlled low strength material to fill the water circulation tunnels. Because the crushed concrete is completely isolated from stormwater and groundwater, there is no potential risk due to leaching.

Crushed concrete would also be blended with soil into an engineered fill. The ratio of soil to concrete within the engineered fill would depend on its intended application, with greater concrete content used for building voids and for grading fill deeper than 2 feet below final grade. For grading fill within the top 2 feet from final grade, a ratio of 5 soil:1 part concrete would be utilized to alleviate potential stormwater and groundwater quality impacts. However, leachate from crushed concrete could result in a potentially significant impact to surface or groundwater.

A study was conducted in 2018 that evaluated the leaching properties of recycled concrete debris (Gluchowski et al., 2018). As part of this study, leachate was analyzed for heavy metals. Lead and zinc were not detected. Other concentrations were less than California Maximum Contaminant Levels (MCLs) for drinking water, except nickel (0.127 milligrams per liter [mg/L]), which slightly exceeded the MCL (0.1 mg/L). Although nickel slightly exceeded the MCL, this concentration is not expected to result in detrimental impacts to water quality due to attenuation and dilution, which would reduce nickel concentrations to an acceptable level.

As previously described, the only groundwater used for drinking water at the DCPP site is pumped from Well #2, located east of the DCPP site at a ground elevation of 333 feet MSL. This is considerably higher than the ground elevation where the majority of fill would be used (85 feet MSL). Well #2 draws from an isolated source specific to Diablo Canyon that is replenished by flows through the alluvium. Potential leaching from crushed concrete at this lower elevation cannot lead to any drinking water source due to overall site hydrogeological characteristics and the higher elevation of the aquifer replenishing the location tapped by the deep water well. A comparison of the static water level and the pumping water level of Well #2 and the Power Block

wells show that Well #2 could not draw water from the Power Block area, even during intensive pumping during drought conditions (ENTRIX, 2010). As such, leachate from crushed concrete reuse at the DCPP site would not violate any water quality standards or waste discharge requirements or create substantial additional sources of polluted runoff. With implementation of MM EM-2, which includes updating and tracking the Site Grading and Concrete Re-use Strategy Plan (see Table 2-2), impacts from leachate would be reduced to less than significant (Class II).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, operational activities at the DCPP site would include long-term management of the GTCC Waste Storage Facility and operation of the Security Building, indoor Firing Range, and Storage Buildings. No additional construction would occur such that no new structures or impervious surface areas would be created and there would be no new sources of additional runoff. No impact would occur.

Future Actions. Marina operations would be limited to car parking, restrooms, and use of boats and non-motorized vessels, such as kayaks and stand-up paddleboards. While limited, because use of the Marina would increase over existing conditions, operations have the potential to introduce new sources of pollution into marine waters. MM HWQ-2 (*Long-Term Erosion and Sediment Control Plan*) ensures any runoff from the new parking lots or restroom facilities would be controlled and treated. Additionally, as required by MM HWQ-3 (*Clean Marina Lease Provisions*), PG&E would be required to include clean marina provisions in any future lease for the Marina's use. As such, impacts would be reduced to a less-than-significant level (Class II).

Mitigation Measures for Impact HWQ-1.

EM-2 **Project Plan Updating, Tracking, and Reporting.** See Section 3. For Impact HWQ-1, MM EM-2 will be implemented to track the compliance activities and reporting of the Construction Drainage Plan required under MM HWQ-1, the Long-Term Erosion and Sediment Control Plan required under MM HWQ-2, and the Site Grading and Concrete Re-use Strategy Plan listed in Table 2-2.

HWQ-1 **Prepare and Implement Drainage Plans.**

1.1: Construction Drainage Plan. Prior to or concurrent with County issuance of grading, demolition, or other construction permits for Phase 1, the Applicant or its designee shall prepare a Construction Drainage Plan for the work activity area and adjacent drainage systems that may affect the work activity area, consistent with County Public Works drainage requirements. The Construction Drainage Plan must be prepared by a licensed civil engineer for review and approval in accordance with section 23.05.040 of the San Luis Obispo County Land Use Ordinance. Construction Drainage Plan requirements throughout Phase 1 shall include:

- A topographic survey with all existing drainage features (such as basins, inlets, pipes, culverts, swales, and other related appurtenances) that are to remain or to be demolished, within each work activity area, or work proposed under each permit.

- Calculations, exhibits, and narrative that evaluate the existing site drainage pattern including all existing drainage features in the area affected by the permit(s) and demonstrate how drainage will be managed within each work activity area and to/from adjacent drainage areas, throughout construction.
- Calculations, exhibits, and narrative that clearly identify and evaluate the proposed permit area drainage and how it affects the overall site drainage, as modified by other work in surrounding areas. Any phased submittals must be consistent with or include appropriate revisions to the proposed overall Existing Site Drainage Plan (see below).
- For any phased construction submittal, drainage calculations, exhibits, and narrative that demonstrate any proposed changes to the drainage system provide safe, non-erosive conveyance of runoff through the DCPP site and will not impair any receiving facilities during phased construction.
- For any proposed or existing stormwater discharge to the bluff, beach, intertidal, or marine area, evidence of compliance with section 23.05.050.d of the Land Use Ordinance.
- Calculations and mapping of flood extents for Diablo Creek in a 100-year 24-hour storm.
- Geotechnical and drainage evaluations of existing facilities, including the structural embankment and appurtenant culverts, at the Diablo Creek embankment crossing, located near the northwest project boundary, and the ancillary crossing located approximately 550 feet upstream of the Diablo Creek embankment crossing. The evaluations must assess stability and performance of the facilities in a 100-year flood event.

The Construction Drainage Plan shall be consistent with County Department of Public Works conditions of approval and Title 23 requirements, and submitted to the County for review by the Department of Planning and Building, and Department of Public Works. The Construction Drainage Plan for each permit or work area during Phase 1 construction must be approved concurrent with construction plans for permit applications, prior to permit issuance.

1.2: Post-Decommissioning Drainage Plan. Prior to County issuance of any construction permits related to starting Phase 2 construction, the Applicant or its designee shall prepare a Post-Decommissioning Drainage Plan for the final surface conditions at the DCPP site after demolition of all commissioned structures. The Post-Decommissioning Drainage Plan must be prepared by a licensed civil engineer for review and approval in accordance with section 23.05.040 of the Land Use Ordinance. The Post-Decommissioning Drainage Plan shall be consistent with County Department of Public Works conditions of approval and Title 23 requirements and submitted to the County for review by the Department of Planning and Building and Department of Public Works. The Post-Decommissioning Drainage Plan must be approved and incorporated to grading and construction plans prior to commencing Phase 2 work.

Prior to final inspection, all work required by the approved drainage plan(s) must be constructed or reconstructed to the satisfaction of the Departments of Public Works and in accordance with the County Public Improvement Standards, the Project conditions of approval, and approved development plan(s).

HWQ-2 **Long-Term Erosion and Sediment Control Plan.** Prior to submittal of Final Grading and Drainage Plans for Phase 2, the Applicant or its designee shall develop a final Long-Term Erosion and Sediment Control Plan for the final surface conditions at the DCPP site after demolition of all decommissioned structures. This plan shall be included in the Stormwater Management Plan (SWMP). The preliminary plan would be updated based on the final Grading and Drainage Plans, site conditions, drainage infrastructure, general site drainage patterns, and stabilization measures remaining after demolition and submitted with Phase 2 grading permit application(s). The plan shall identify BMPs to control erosion of soil and sedimentation from the site during grading and final site restoration activities, and shall address requirements such as:

- Hydroseeding
- Tree protection
- Soil preparation/roughening
- Earth dikes, drainage swales, and slope drains
- Silt fence for perimeter control
- Fiber rolls along slopes and perimeter control
- Sediment traps, basins, and drainage inlet protection for treatment of runoff
- Stabilized construction entrance to work areas
- Tire washes at active work zones to remove sediment from construction vehicles
- Additional erosion and sediment control BMPs or new BMPs would also be added to improve sediment control in specific areas of the site and target specific issues identified later in the design.

The final Long-Term Erosion and Sediment Control Plan shall be consistent with County Department of Public Works conditions of approval and Title 23 requirements and submitted for review to the Central Coast Regional Water Quality Control Board (CCRWQCB) and San Luis Obispo County Department of Planning and Building and Department of Public Works. The final Long-Term Erosion and Sediment Control Plan must be approved prior to the Applicant or its designee commencing Phase 2 work. Proof of CCRWQCB approval of the plan shall be submitted to the County before issuance of permits related to Phase 2 work to document compliance.

HWQ-3 **Clean Marina Lease Provisions.** As part of the Marina lease for third party permitting and reuse, the Applicant or its designee shall require that California Coastal Commission's California Clean Marinas Toolkit or similar program be incorporated into the third-party operational plan with annual compliance updates. The operational plan documenting the clean Marina provisions shall be submitted to the County by the designated lessee in conjunction with submittal of a Land Use Permit/Coastal Development Permit for Marina operations and shall be approved for implementation prior to commencing Marina operations. Annual compliance updates shall be submitted to the County by January 30 of each year of the lease.

Impact HWQ-2: Degrade surface water quality as a result of chemical spills during decontamination and dismantlement activities or introduce contaminants to surface water as a result of groundwater dewatering during decontamination and dismantlement activities or at the off-site materials handling facilities (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

Decontamination and dismantlement of the DCPP site has the potential to degrade surface water quality through accidental spills, structure dismantlement, and through the dewatering process if not adequately planned for and controlled.

Heavy construction equipment would be used for decommissioning activities at the DCPP site. Accidental spills or leaks of gasoline, diesel fuel, oil, hydraulic fluid, lubricants, transmission fluid, and other fluids from construction equipment used during construction activities could contaminate surface water or groundwater. In addition, chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste generated from the DCPP site may spill or leak during decommissioning and have the potential to be transported via storm runoff into receiving waters.

As previously discussed in Impact HWQ-1, the DCPP currently operates under an existing IGP. PG&E would maintain the existing IGP until cessation of power generation operations, at such time the IGP would transition to the CGP during decommissioning activities. Because decontamination and dismantlement activities (i.e., construction activities) would disturb greater than 1 acre of soil, the Proposed Project is subject to the requirements of the CGP (AC WQ-1, *Construction General Permit*), which would be implemented by PG&E as part of the Proposed Project. The permit requires development and implementation of a SWPPP and implementation of BMPs to control pollutants from construction materials and to prevent spills, leaks, and discharge to receiving waters. PG&E has committed to developing a SWPPP (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*) as part of the Proposed Project. Example BMPs in the SWPPP may include the following:

- Designating areas for staging, refueling, maintenance, or washing equipment
- Use of secondary containment (i.e., drip pans)
- Daily inspections
- Ensuring availability of spill control kits, absorbent pads, and sandbags in case of spill

In addition to the SWPPP, an SPCC Plan would be developed for the DCPP site. The SPCC Plan would address oil spill prevention, control measures to ensure water quality standards would not be violated, and countermeasures to contain, cleanup, and mitigate the effects of a spill. To minimize any potential impacts due to spills or leaks, PG&E would define staging areas and access points for heavy equipment, secondary containment, and daily inspections (AC BIO-4, *Site Maintenance and General Operations*).

As stipulated in MM HWQ-1, PG&E would also be required to develop a Construction Drainage Plan to San Luis Obispo County standards that would need County Department of Public Works approval prior to construction. The Construction Drainage Plan would identify potential drainage

issues and proposed methods for safely conveying and containing stormwater runoff and preventing impacts to coastal water quality.

Phase 1 also includes the demolition and removal of the Discharge Structure which is located partially in the marine environment. Prior to demolition, a containment structure (i.e., cofferdam) would be installed around the Discharge Structure to isolate the work area from the Pacific Ocean. Construction of the cofferdam requires use of barges, tugboats, and other ocean equipment. In addition, waste materials from decommissioning activities would be transferred off site by barge and tugboat. During in-water activities, there is the potential for chemical leaks and spills into the marine environment. PG&E has developed an Oil Spill Response Plan (see Table 2-2) that outlines notification and initial response procedures in the event of a nearshore oil spill during construction and demolition activities and operational activities, including vessel fueling, vessel operations, and fuel storage (PG&E, 2022b). The plan focuses on two scenarios that present the greatest risk, including diesel fuel spills from a tugboat within the Intake Cove and Diablo Cove. The Oil Spill Response Plan includes measures to prevent a spill from occurring or contain and cleanup a spill if it does occur. The Oil Spill Response Plan includes detailed planning of the following elements:

- Definition of the authorities, responsibilities, and duties of all entities involved in oil removal operations
- Procedures for early detection and timely notification of an oil discharges
- Assurance that full resource capability is known and can be committed following a discharge
- Actions for after discovery and notification of a discharge
- Procedures to facilitate recovery of damages and enforcement measures (PG&E, 2022b).

MM MBIO-8 (*Oil Spill Response Plan*) requires updating PG&E's Oil Spill Response Plan (PG&E, 2022b) to include at a minimum, a description of the Project scope-of-work and geographic area, pre-work planning needed to prepare for a possible nearshore oil spill, initial response procedures including agency notifications and on-site team communications, how waste from an oil spill would be handled and disposed of, and a description of how the area would be decontaminated and how any contaminated materials handled. Compliance and implementation of the SWPPP, SPCC Plan, and updated Oil Spill Response Plan would reduce the risk of a spill occurring and minimize impacts from spills on water quality if they were to occur. Therefore, impacts would be reduced to a less-than-significant level (Class II).

Dewatering

Groundwater dewatering may be required during construction activities if groundwater is encountered during the removal of existing infrastructure. If encountered, dewatering could result in the accidental release of chemicals, including radioactive materials, to surface waters which would result in a potentially significant impact. As discussed in Impact HWQ-1, the Proposed Project would be required to comply with the requirements of the Waste Discharge Requirements NPDES General Permit for Discharges with Low Threat to Water Quality (Order No. R3-2017-0042, NPDES No. CAG993001). The NPDES General Permit would require testing and treatment of groundwater prior to discharge to protect surface water quality. Compliance and implementation of the NPDES General Permit would reduce the risk of introducing contaminants

to surface waters if groundwater dewatering were required and impacts would be less than significant (Class III).

Railyards

Similar to impacts described above, accidental spills or leaks of gasoline, diesel fuel, oil, hydraulic fluid, lubricants, transmission fluid, solvents, and other fluids used during transport activities at the railyards could contaminate surface water or groundwater.

Pismo Beach Railyard. Shipments to the PBR site would be non-radiological and non-hazardous waste subject to the same handling and transport requirements that currently exist. Modifications to the PBR site would be limited to refurbishing approximately 1,100 feet of existing track. No below ground structures would be removed; therefore, dewatering would not be required. Therefore, there is no increased risk of degrading surface water quality from a spill or dewatering. The impact would be less than significant (Class III).

SMVR-SB. Low-level radioactive waste (LLRW) may be hauled to SMVR-SB for transport out of state via rail for disposal. Transport of waste is highly regulated, and shipments would be packaged at the DCPP site. Waste would be loaded into sealed 20-foot intermodal containers, transported to the SMVR-SB site, and then loaded directly onto rail cars for transport to the disposal facility. PG&E would comply with all transport regulations.

This site is an existing industrial facility with storage and transportation infrastructure in place. Modifications to the site for the Proposed Project are limited in scope. No below ground structures would be removed; therefore, dewatering would not be required. Therefore, there is no increased risk to degrade surface water quality from a spill or dewatering. The impact would be less than significant (Class III).

Phase 2

Similar to Phase 1, heavy equipment would also be used during Phase 2 with the potential for accidental spills or leaks to contaminate surface water or groundwater. Removal of the Discharge Structure would leave a gap within the existing cliff area and expose a portion of the cliff that was previously protected by a concrete wall. As designed, removing the structure would leave a large void, which would be filled with quarry rock. The placed rock would provide bluff erosion protection. Spills to the marine environment may also occur during transfer of waste materials off site by barge and tugboat or during the transfer of quarry rocks to the site by barge and tugboat. As previously discussed, compliance and implementation of the SWPPP, SPCC Plan, and updating the Oil Spill Response Plan (MM MBIO-8) would reduce the risk of a spill occurring and minimize impacts to less than significant (Class II).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, operational activities at the DCPP site would include long-term management of the GTCC Waste Storage Facility and operation of the Security Building, indoor Firing Range, and Storage Buildings. No new construction, use of heavy construction equipment, or groundwater dewatering would be required; therefore, no impact would occur.

Future Actions. As described, following full closure of the DCPP site, the site and facilities would undergo Final Status Surveys (FSS) to confirm that any residual levels of radionuclides have been removed and or decreased to levels below site-specific levels that equate to the NRC-approved site release criteria. At that time, the Marina could be released for recreational, education, or commercial purposes. PG&E would lease the Marina to a third party, which would perform limited site improvements and operate the facility upon approval of a County land use and Coastal Development permit.

Marina operations would be limited to car parking, restrooms, and use of boats and non-motorized vessels, such as kayaks and stand-up paddleboards. Any construction at the site following decommissioning would be required to comply with standard regulatory controls such as a SWPPP to ensure stormwater is managed, and BMPs are instituted to control spills and leaks. Use of the new parking lots and restroom facilities could introduce new sources of pollution thereby potentially degrading surface water quality. MM HWQ-2 (*Long-Term Erosion and Sediment Control Plan*) ensures any runoff from the new parking lots or restroom facilities would be controlled and treated. Additionally, as required by MM HWQ-3 (*Clean Marina Lease Provisions*), PG&E would be required to include clean marina provisions in any future lease for the Marina's use. As such, impacts would be reduced to a less-than-significant level (Class II).

Mitigation Measures for Impact HWQ-2.

MBIO-8 Oil Spill Response Plan. See Section 4.4.

HWQ-1 Prepare and Implement Drainage Plans

HWQ-2 Long-Term Erosion and Sediment Control Plan

HWQ-3 Clean Marina Lease Provisions

Impact HWQ-3: Substantially degrade marine water quality, including increasing turbidity and debris in the marine environment during decontamination and dismantlement activities, or potentially exceed California Ocean Plan salinity requirements or reducing dissolved oxygen concentrations upon cessation of power generation activities (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

Phase 1 has the potential for significant impacts related to substantial degradation of marine water quality from the discharge of debris, increased turbidity, and increased salinity.

Debris

Phase 1 would generate construction debris through dismantlement of structures. Most of Phase 1 construction would occur on land and debris would be contained on site. However, Phase 1 also includes the demolition and removal of the Discharge Structure which is located partially in the marine environment. Prior to demolition, a cofferdam would be installed around the Discharge Structure to isolate the work area from the Pacific Ocean. The cofferdam would allow for dewatering of the work area so that demolition can be conducted under dry conditions. Place-

ment of the cofferdam around the existing Discharge Structure would minimize the distribution of debris beyond the containment area and impacts would be less than significant (Class III).

Turbidity:

A cofferdam and dewatering system would be used for removal of the Discharge Structure to allow work to be conducted under dry conditions. Prior to shutdown of the Discharge Structure, a temporary pipe would be installed aboveground from the SWRO to Diablo Cove (over or adjacent to the cofferdam) to redirect brine discharges from the SWRO starting in 2029 and continuing until the end of 2034, when the SWRO is no longer in operation. Discharge from the brine line has the potential to cause turbidity; however, it is expected to be substantially less than existing conditions where the Discharge Structure is operational. In addition, the temporary pipe would include diffusers to reduce velocity of the discharge and limit the potential for increased turbidity. To support the period of redirected flow, PG&E would obtain an amendment to the existing NPDES Permit No. CA0003751 or would obtain a new NPDES permit. Effluent limitations for turbidity are outlined in the California Ocean Plan.

Placement of the cofferdam and removal when restoration activities are complete would result in the disturbance and resuspension of sediment adjacent to the Discharge Structure. In addition, there is expected to be some discharge of water from inside the cofferdam during demolition, such as through seams between the sheet piles or seepage captured on the inside of the cofferdam. PG&E developed a Turbidity Monitoring Plan for decommissioning activities associated with the demolition and removal of the Discharge Structure and restoration activities, including placement and removal of the cofferdam (PG&E, 2022a). The Turbidity Monitoring Plan includes BMPs to reduce turbidity, including the following:

- Sediment removal prior to placement of cofferdam should utilize a water lift to remove any sand or sediment and reduce air entrainment and sediment dispersion.
- Any discharge of excavated material should occur within 10 feet of the terminus of the discharge pipe location and within 3 feet of the seafloor.
- The discharge hose may need to be periodically repositioned to avoid accumulation of excavated material.
- A shroud should be fabricated to fit on the end of the discharge pipe to reduce sediment plume dispersion during disposal.

Additionally, the Turbidity Monitoring Plan calls for receiving water turbidity monitoring to ensure turbidity levels are acceptable based on permit requirements. MM HWQ-4 (*Turbidity Monitoring Plan*) is recommended, which would require PG&E to update the Turbidity Monitoring Plan to include monitoring and additional BMPs associated with the temporary brine line. Additionally, MM MBIO-3 (*Water Quality Monitoring Plan*) also requires updates to the Turbidity Monitoring Plan to provide protection to receiving waters, adjacent sensitive habitats, and protected species primarily from turbidity during activities associated with any in-water construction activities.

Activities at the DCPP have the potential for a significant impact related to substantial degradation of marine water quality through increased turbidity levels during decommissioning activities. Compliance with California Ocean Plan and NPDES permit requirements, and development and

implementation of the updated Turbidity Monitoring Plan per MM HWQ-4 and MM MBIO-3, would ensure that impacts would be less than significant (Class II).

Salinity

Brine and wastewater discharges associated with the current operating plant are diluted in the OTC water system, which has flows of approximately 2.55 billion gallons of water per day. Following shutdown of DCPP, only the auxiliary saltwater system and SWRO supply would be in operation, which results in a 90 percent reduction in ocean flow. The water management approach for decommissioning is based on the existing NPDES Permit No. CA0003751. As previously described, prior to demolition of the Discharge Structure, a temporary brine line would be installed to redirect flow from the SWRO into Diablo Cove. Flow from the SWRO would be redirected until the end of 2034, when the SWRO is no longer in operation. PG&E would obtain an amendment to the existing NPDES Permit No. CA0003751 or would obtain a new NPDES permit to cover the redirected flow. As OTC flows decrease during decommissioning, salinity levels within Diablo Cove could exceed California Ocean Plan salinity requirements or dissolved oxygen concentrations could decrease, resulting in areas of hypoxia that may impact marine organisms. Additionally, the brine could contain increased concentrations of constituents that originated in seawater that are regulated under the California Ocean Plan.

A dilution study was conducted to evaluate the potential impacts from brine and wastewater discharges during the stepped shut down of the OTC (a.k.a. period of redirected flow) (PG&E, 2021b). Based on results of the discharge model, no adverse effects would be expected at the minimum dilution rate of 7,000 gpm for the SWRO facility. Discharge of excess brine from the SWRO facility is predicted to increase background salinity by less than 0.5 parts per thousand at the point of discharge in Diablo Cove. Salinity is further diluted with increased distance from the outfall and quickly drops to background conditions. Specific contaminants were not considered in the modeling study; however, the relative dilution results can be applied to other constituents of concern. Based on results of this study, shutting down the OTC is not expected to degrade marine water quality or result in an exceedance of the California Ocean Plan salinity requirements and impacts would be less than significant (Class III).

Railyards

The PBR site is partially within the coastal zone but is located approximately 0.6 miles from the existing shoreline and would not impact marine waters. The SMVR-SB site is located outside of the coastal zone and therefore would not impact coastal processes. Therefore, no impact would occur.

Phase 2

In Phase 2, continuation of the Discharge Structure removal and restoration activities have the potential to increase turbidity in the marine environment. Similar to Phase 1, compliance with the California Ocean Plan and NPDES permit requirements, and implementation of the updated Turbidity Monitoring Plan per MM HWQ-4 and MM MBIO-3, would ensure that impacts would be less than significant (Class II).

Following reduction and eventual elimination of intake water, circulation in the Intake Cove would be reduced, resulting in potential water quality impacts. Current velocities within the Entrance Channel to the Intake Cove were considered to evaluate the potential for impact. This evaluation suggests that loss of the Intake flow could reduce the average current velocity in the Entrance Channel to the Intake Cove. Although there is a potential for reduced circulation within the Intake Cove due to the reduced current velocities, tidal currents through the Entrance Channel would still provide adequate circulation to not cause water quality impairments; therefore, impacts related to elimination of intake water at the Intake Structure would be less than significant (Class III).

The openings of the Intake Structure would be sealed in Phase 2 and equipment removed from the deck. The openings of the Intake Structure would be sealed with concrete bulkheads, which would be located entirely within the water. Work to install the bulkheads could result in short term turbidity. Compliance with California Ocean Plan and NPDES permit requirements, and development and implementation of the updated turbidity Monitoring Plan as required per MM HWQ-4 and MM MBIO-3, would ensure that impacts related to sealing of the Intake Structure would be less than significant (Class II).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, operational activities at the DCPP site would include long-term management of the GTCC Waste Storage Facility and operation of the Security Building, indoor Firing Range, and Storage Buildings. All three sites are located just outside the coastal zone and there are no activities that would impact marine water quality. Therefore, no impact would occur.

Future Actions. Following full closure of the DCPP site, the site and facilities would undergo FSS to confirm that any residual levels of radionuclides have been removed and or decreased to the NRC-approved site release criteria. At that time, the Marina could be released for recreational, education, or commercial purposes. PG&E would lease the Marina to a third party, which would perform limited site improvements and operate the facility. No in-water improvements are proposed; therefore, there is no potential for significant impacts due to increased turbidity (Class III).

Long-term operation of the Marina, however, could result in increased debris in the marine environment. As required by MM HWQ-3, PG&E would be required to include clean Marina provisions in any future lease for the Marina's use. The clean Marina program includes BMPs for debris; therefore, impacts would be less than significant (Class II).

Mitigation Measures for Impact HWQ-3.

MBIO-3 Water Quality Monitoring Plan. See Section 4.4.

HWQ-3 Clean Marina Lease Provisions

HWQ-4 Turbidity Monitoring Plan. At least 30 days prior to submittal of permits related to installation of the cofferdam around the Discharge Structure, use of the temporary brine line from the SWRO, and closure of the Intake Structure, the Applicant or its designee shall update the existing Turbidity Monitoring Plan. The updated plan shall address elevated turbidity associated with removal of the Discharge Structure, use of

the temporary brine line, and closure of the Intake Structure. The plan shall describe receiving water turbidity monitoring procedures to ensure compliance and identify BMPs to reduce turbidity, including, but not limited to the following:

- Sediment removal prior to placement of cofferdam shall utilize a water lift to remove any sand or sediment and reduce air entrainment and sediment dispersion.
- Any discharge of excavated material should occur within 10 feet of the terminus of the discharge pipe location and within 3 feet of the seafloor.
- The discharge hose may need to be periodically repositioned to avoid accumulation of excavated material.
- A shroud should be fabricated to fit on the end of the discharge pipe to reduce sediment plume dispersion during disposal.

The Applicant or its designee shall submit a copy of the revised Turbidity Monitoring Plan to the San Luis Obispo County Planning and Building for review and approval, and shall incorporate the final, approved Plan into any applications for permits related to the cofferdam around the Discharge Structure, use of the temporary brine line from the SWRO, and closure of the Intake Structure, before commencing in-water work. To document compliance with this measure in the event that permits for a cofferdam around the Discharge Structure, use of the temporary brine line from the SWRO, and closure of the Intake Structure are issued by a Responsible Agency (US Army Corps of Engineers, Central Coast Regional Water Quality Control Board, California State Lands Commission), a copy of these permit applications shall be submitted to the County. Once the permits are issued, copies of the permits shall also be submitted to the County.

Impact HWQ-4: Adversely affect the availability of groundwater due to increased water use or excavation dewatering (Class III: Less than Significant).

Freshwater is needed from the start of decommissioning through site restoration for domestic water, makeup water, dust suppression, and soil compaction. For current DCPP operations, freshwater demand is met from SWRO supplemented with local groundwater. Water demand estimates during decommissioning and restoration include a 16-year period from 2024 to 2039 (covering Phases 1 and 2) that depicts using existing plant equipment (i.e., SWRO and Well #2) and then on-site groundwater and/or trucking water into the site when mostly all demolition activities are complete (see Section 2.3.20, *Water Management, including Management of the Seawater Reverse Osmosis Facility and Liquid Radioactive Waste*). PG&E conducted a resource assessment to determine whether future water needs could be met during decommissioning using SWRO, Diablo Creek, and groundwater (PG&E, 2021a). Based on the results of this assessment, future source water could be supplied from SWRO, groundwater, or a combination of the two (PG&E, 2021a). Diablo Creek was excluded as a potential source due to potential negative riparian environment and habitat impacts from reductions in surface water levels. At the end of 2034, the SWRO would shut down, and on-site water needs for decommissioning would be met via groundwater extraction. Post-decommissioning (after 2039), annual water demand would be

met through groundwater. Bottled water (i.e., Culligan Water) would continue to be trucked in for drinking purposes as is currently done at the DCPP site.

Phase 1

DCPP Project Site

During Phase 1 decommissioning activities, water needs are expected to increase from about 5.5 million gallons annually in 2028 to approximately 32 million gallons annually in 2030. The DCPP currently utilizes SWRO for the majority of its domestic water requirements with some blending via groundwater from Well #2 and this would continue throughout Phase 1.

The DCPP site is not located in an area with a designated groundwater basin (CDWR, 2021a). Furthermore, according to the US Geological Survey (USGS, 1995), no significant aquifers exist in the area. As discussed in Impact HWQ-2, dewatering would be necessary for some below ground structures. At the DCPP site, impacts would be less than significant during Phase 1 decommissioning activities as the amount of dewatering would be limited, and the local groundwater is not part of any groundwater basin. Based on pumping test results at Well #2, decommissioning activities at the DCPP site would not be expected to adversely affect the availability or usability of groundwater as a water resource. The impact would be less than significant (Class III).

Railyards

Pismo Beach Railyard. The PBR site may be used during DCPP decommissioning as a location for accepting and transporting non-radiological and non-hazardous materials out of state via rail for disposal. Modifications to the PBR site would be limited to refurbishing approximately 1,100 feet of existing track. Modifications would not involve ground disturbing activities (e.g., grading), such that water would not be used. Water would continue to be used for portable toilets and bottled water service for existing on-site staff. Decommissioning activities at the PBR would not increase water use within the City of Pismo Beach as no additional employees are anticipated to be required at the PBR facility; therefore, no impact would occur.

SMVR-SB. The SMVR-SB site would be used during DCPP decommissioning for accepting and transporting materials out of state via rail for disposal. This site is an existing industrial facility that is not connected to a wastewater service or water supplier. Modifications to the site for the Proposed Project would be limited in scope and would not require additional water supply, as grading would not occur. Water would be used for portable toilets and bottled water service for the approximately two dozen temporary employees that would support Proposed Project rail operations. The Proposed Project would not cause a substantial increase in water use, and once Phase 1 is complete, waste transport would cease, and additional water would no longer be needed. Therefore, the impact would be less than significant (Class III).

Phase 2

Phase 2 includes final site restoration, including backfilling, grading, landscaping to restore disturbed features, closure of the Intake Structure, and continued Discharge Structure removal and restoration. As previously described, water demands are expected to increase to approximately 32 million gallons annually in 2030 and remain at this level through 2034. During this time,

water demands would be met primarily via SWRO and augmented via on-site groundwater pumping. Starting in 2035, when SWRO is no longer in operation, water use is projected to decrease and level out at 764,000 gallons per year for completion of the remaining decommissioning activities and vegetation watering. During this time, on-site water needs for decommissioning would be met via groundwater extraction. Well #2 has been shown to have adequate capacity to meet this water need; however, additional on-site wells such as Well #5 may be used.

Based on pumping test results at Well #2, decommissioning activities at the DCPP site would not be expected to adversely affect the availability or usability of groundwater as a water resource. The impact would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, operational activities at the DCPP site would include long-term management of the GTCC Waste Storage Facility and operation of the Security Building, indoor Firing Range, and Storage Buildings. Groundwater dewatering would not be required as part of new facility operations. Operation of the DCPP site would include up to 50 workers (during peak periods) in the revised OCA. As previously described, post-decommissioning (after 2039), annual water demand for GTCC Waste Storage Facility operations would level out at approximately 215,000 gallons per year. This would be met via groundwater extraction; however, Well #2 would have adequate capacity to meet these water needs. Therefore, the availability of groundwater would not be adversely impacted due to increased water use and this impact is less than significant (Class III).

Future Actions. The Marina is anticipated to have up to 200 visitors per day. Water use would be limited to the public restrooms; no water would be available for boat washdown or engine clearance. As noted above, Well #2 would have adequate capacity to meet these water needs. Therefore, the availability of groundwater would not be adversely impacted due to increased water use and this impact is less than significant (Class III).

Mitigation Measures for Impact HWQ-4. No mitigation measures are required.

Impact HWQ-5: Increase soil erosion and sedimentation due to removing structures and/or impervious surface areas, altering drainage patterns, or exceeding the capacity of stormwater conveyance structures (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

Soil Erosion and Sedimentation

During Phase 1, construction activities associated with decommissioning would directly disturb soils within the DCPP site, including excavation or ground disturbance required for decontamination and removal of SSCs, and soil remediation. During grading, drainage patterns would be temporarily altered and there would be an increased potential for soil erosion and sedimentation. Conversion of hard surface to bare ground would increase erosion during rain events. In addition, removal of the Discharge Structure, which includes the tunnel extending 30 feet into the bluff, would leave a gap within the existing cliff area and expose a portion of the cliff that was

previously protected by a concrete wall. As designed, removing the structure would leave a large void, which would be restored through installation of layers of different rock materials that blend with the natural stratigraphy of the bluff (see Figures 2-30 and 2-31) and would provide bluff erosion protection. With implementation of MM GEO-5 (*Discharge Structure Backfill and Natural Bluff Site Inspection*), which include monitoring the area of the Discharge Structure to ensure stability and structural integrity to withstand natural bluff erosion and wave action, the effects of erosion associated with the Discharge Structure backfill would be less than significant (Class II).

As discussed above, the Proposed Project would be required to comply with the requirements of the CGP (AC WQ-1, *Construction General Permit*), which would be implemented by PG&E. The permit requires development and implementation of a SWPPP (AC BIO-3, *Site-Specific Storm-water Pollution Prevention Plan*). The SWPPP would be developed prior to the start of decommissioning activities and contain BMPs designed to minimize erosion during construction, control sediment and pollutants from construction materials, and stabilize construction areas. The SWPPP would define requirements for monitoring and inspections. PG&E also developed a Preliminary Erosion and Sediment Control Plan (see Table 2-2) that identifies BMPs to control erosion of soil and sedimentation from the site during grading (PG&E, 2020b). MM EM-2 (*Project Plan Updating, Tracking, and Reporting*) would be required to ensure that recommendations from plans and programs are implemented, tracked, and verified. Compliance with MM EM-2, which includes updating and tracking the Erosion and Sediment Control Plan, SWPPP, and associated BMPs, would reduce the risk of erosion and sedimentation to a less-than-significant level (Class II).

Alter On-Site Drainage Patterns and Exceed Capacity of Stormwater Conveyance Structures

Decontamination and dismantlement activities during Phase 1 would temporarily alter the on-site drainage patterns. As discussed above, the Proposed Project would be required to comply with the requirements of the CGP. The permit requires development of a SWPPP and use of BMPs to direct and control stormwater during construction activities.

The DCPP site has a robust existing stormwater conveyance system. During Phase 1 decommissioning activities, the existing stormwater conveyance structures would be utilized to remove stormwater from work areas. Interim culverts and/or swales may be required during phased construction activities to convey stormwater in a non-erosive manner to the ultimate point of discharge. The DCPP currently operates under IGP WDID 3 40I018248 and ultimately would operate under the CGP during decommissioning activities. The CGP requires development of a SWPPP and use of BMPs to direct and control stormwater. Compliance with the SWPPP and use of appropriate BMPs would help control runoff from work areas and reduce the risk of exceeding capacity of stormwater conveyance structures to less than significant (Class III).

Railyards

Pismo Beach Railyard. Use of the PBR site during decommissioning activities would be similar to its current use, and there would be no removal of structures or changes to impervious surfaces. As such, there would be no changes to existing drainage patterns, increase risk of soil erosion, or additional runoff that would exceed capacity of stormwater conveyance. The impact would be less than significant (Class III).

SMVR-SB. No new development is proposed at the SMVR-SB site, and only minor infrastructure modifications are anticipated. There would be no removal of structures or changes to impervious surfaces; therefore, there would be no changes to existing drainage patterns, increase risk of soil erosion, or additional runoff that would exceed capacity of stormwater conveyance. The impact would be less than significant (Class III).

Phase 2

DCPP Project Site

During Phase 2, soils would be directly disturbed within the DCPP site as part of soil remediation, demolition of remaining structures, continuation of Discharge Structure removal and restoration activities (see Phase 1 discussion), and final site restoration. Final site restoration would include backfilling and grading to restore excavated and disturbed features. If cut/fill volumes cannot achieve a zero-balance, soil may be cut from the SE Borrow Site for use as fill material. In addition, culverts would be removed and/or replaced, as necessary, for final site restoration and to ensure facilities remain capable of conveying stormwater in a non-erosive manner. Similar to Phase 1, the Proposed Project would comply with the requirements of the CGP (AC WQ-1, *Construction General Permit*), which would be implemented by PG&E. The permit includes implementation of the SWPPP (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*) and use of BMPs. PG&E also developed a Preliminary Erosion and Sediment Control Plan for the final surface conditions after demolition of all decommissioned structures (PG&E, 2020b), which identifies BMPs to control erosion of soil and sedimentation from the site during grading and site restoration activities. As with Phase 1, MM EM-2 (*Project Plan Updating, Tracking, and Reporting,* specifically for the Erosion and Sediment Control Plan listed in Table 2-2) would be required in Phase 2 to ensure that recommendations from plans and programs are implemented, tracked, and verified. MM GEO-5 (*Discharge Structure Backfill and Natural Bluff Site Inspection*) would also continue to apply following placement of Discharge Structure backfill.

A final Long-Term Erosion and Sediment Control Plan would be developed to address the final reuse and configuration of the site, as detailed in MM HWQ-2. The Long-Term Erosion and Sediment Control Plan would be included in the SWMP. The preliminary plan would be updated based on the final Grading Plan, site conditions, drainage infrastructure, general site drainage patterns, and stabilization measures remaining after demolition. Additional erosion and sediment control BMPs would be developed to improve sediment control in specific areas of the site and target specific issues identified later in the design.

Long-term stormwater management in Phase 2 includes installation of post-construction stormwater controls and development of a SWMP as discussed in Impact HWQ-4 to manage stormwater drainage from the site over the time required for revegetation to establish and to minimize sediment impacts to Diablo Creek and the Pacific Ocean. The SWMP and Post-Decommissioning Drainage Plan (MM HWQ-1) would be developed in accordance with Low Impact Development requirements and include an analysis of site hydrology and post-grading stormwater conveyance systems. Low Impact Development includes techniques to limit the amount of impervious surface, increase on-site filtration, and improve water quality by reducing runoff from developed site.

Phase 2 decommissioning activities would temporarily alter drainage patterns, which could result in increased soil erosion and contribute to additional runoff that would exceed capacity of stormwater conveyance, causing a potentially significant impact. Compliance with MM HWQ-1 (*Prepare and Implement Drainage Plans*), MM HWQ-2 (*Long-term Erosion and Sediment Control Plan*), SWMP, and associated tracking of these plans per MM EM-2 (*Project Plan Updating, Tracking, and Reporting*), the Proposed Project would not increase soil erosion and sedimentation, alter on-site drainage patterns, or contribute to additional runoff that would exceed capacity of stormwater conveyance, and the impact would be reduced to less than significant with mitigation (Class II).

Post-Decommissioning Operations

New Facility Operations. During operations, which include operation of the GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings, no additional construction would occur such that no new structures or impervious surface areas would be created. Drainage patterns would not change and there would be no increase in soil erosion of sedimentation. No impact would occur.

Mitigation Measures for Impact HWQ-5.

EM-2 **Project Plan Updating, Tracking, and Reporting.** See Section 3. For Impact HWQ-5, MM EM-2 will be implemented to track the compliance activities and reporting of the Construction Drainage Plan required under MM HWQ-1, the Erosion and Sediment Control Plan listed in Table 2-2, and the Long-Term Erosion and Sediment Control Plan required under MM HWQ-2.

GEO-5 **Discharge Structure Backfill and Natural Bluff Site Inspection.** See Section 4.8.

HWQ-1 **Prepare and Implement Drainage Plans**

HWQ-2 **Long-Term Erosion and Sediment Control Plan**

Impact HWQ-6: In flood hazard, tsunami, or seiche zones, increase risk of pollutant release from Project activities or stored materials being inundated from flooding (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

Based on dam breach inundation maps provided by the CDWR Division of Safety of Dams, the closest dam to the DCPP site is the Chorro Creek Dam, which is located approximately 12 miles to the northeast (CDWR, 2021b). The Chorro Creek Dam retains the Chorro Creek Reservoir, a relatively small waterbody. Based on the dam breach inundation map, flooding is limited to the areas along Chorro Creek, extending approximately 4.6 miles southwest of the dam. As such, the DCPP site is not located within a dam inundation area.

The DCPP site is located above the 500-year flood elevation, with the exception of the shoreline (FEMA, 2017a). The shoreline is subject to inundation by the 100-year flood with additional hazards due to storm-induced wave action and is within the Flood Hazard Area designated by the

San Luis Obispo County General Plan (San Luis Obispo, 2010). The shoreline Flood Hazard Area includes the Intake Structure and Intake Cove with a Base Flood Elevation of 22 feet MSL and the Discharge Structure with a Base Flood Elevation of 39 feet MSL (FEMA, 2017a). Of these existing structures, Phase 1 only includes the demolition and removal of the Discharge Structure. Prior to demolition, a cofferdam would be installed around the Discharge Structure to isolate the work area from the Pacific Ocean. Wind and wave data from a 50-year storm was used to model environmental criteria for construction of the cofferdam (Argonautics Marine Engineering, Inc., 2020). Based on these factors, the DCPP site with installation of the cofferdam would not be subject to inundation from flooding during Phase 1 and there is no increased risk of pollutant release due to inundation from flooding.

In addition to coastal flooding, the DCPP site may be subject to tsunamis and seiches. A tsunami is a series of waves caused by an underwater disturbance, such as an earthquake, volcano, or landslide. Based on California Geological Survey Tsunami Hazard Area Map, most of the DCPP site is outside the inundation zone except low-lying areas along the shoreline (California Department of Conservation [CDOC], 2022), including the Intake Structure, Discharge Structure and cofferdam, and the Intake Cove. However, the probability of a large tsunami is very low and not common on the Central Coast of California (San Luis Obispo, 2016). The County of San Luis Obispo maintains the Tsunami Emergency Response Plan, which defines emergency response management procedures, organization response, and coordination related to a potential tsunami (San Luis Obispo, 2016). The plan includes notification procedures for the DCPP such that impacts would be less than significant (Class III).

A seiche is a standing wave that develops in an enclosed or semi-enclosed body of water. The Breakwaters create a semi-enclosed harbor, which could be affected by small seiches; however, the seiche wave height would be likely limited due to the relatively small size of the harbor and influence of wave action from normal coastal processes. During Phase 1 there would be additional boating activities with barges and tugboats being loaded for waste transport out-of-state within the Intake Cove. As such, there could be an increased risk of pollutant release. In the event of a spill, MM MBIO-8 (*Oil Spill Response Plan*) would reduce potential impacts to a less-than-significant level (Class II). There are no other enclosed or semi-enclosed bodies of water adjacent to or above the DCPP site.

Railyards

Pismo Beach Railyard. Based on dam breach inundation maps provided by the CDWR Division of Safety of Dams, the closest dam to the PBR site is the Terminal Dam, approximately 6 miles to the east (CDWR, 2021b). The Terminal Dam retains the Lopez Reservoir, a relatively small waterbody. Based on the dam breach inundation map, flooding is limited to the areas along the Arroyo Grande Creek, which flows south and west of the dam to the Pacific Ocean. The PBR site is located approximately 4 miles north of Arroyo Grande Creek and is not within a dam inundation area. The PBR site is within an area with a one percent annual chance or (100-year) flood, with the exception of the area adjacent to Price Canyon Road. Therefore, this site could be subject to inundation from flooding, resulting in an increased risk of pollutant release, which would result in a potentially significant impact. However, as stated in the Project Description, *Modifications and Operations at Rail Facilities*, temporary storage of any non-radiological or non-hazardous waste at the PBR site would be kept at least one foot

above any existing FEMA 100-year floodplain elevation (AC BIO-4, *Site Maintenance and General Operations*); therefore, resulting in less than significant impacts (Class III).

Based on California Geological Survey Tsunami Hazard Area Map, the PBR site is outside the inundation zone (CDOC, 2022); therefore, there is no risk of pollutant release due to inundation from a tsunami. Likewise, there are no enclosed or semi-enclosed bodies of water adjacent to or above the PBR site; therefore, there is no risk of pollutant release due to inundation from a seiche. There would be no impact.

SMVR-SB. As previously discussed, the SMVR-SB site is not subject to flooding and is above the elevation of the 500-year flood (FEMA, 2012). Based on this, the SMVR-SB site is not subject to inundation from flooding and there is no increased risk of pollutant release due to inundation from flooding. The closest dam to the SMVR-SB site is the Twitchell Dam (Santa Maria, 2020). The Twitchell Dam retains the Twitchell Reservoir and is located approximately 12 miles to the northeast of the SMVR-SB site. As such, the SMVR-SB site is not located within a dam inundation area. There would be no impact.

Based on California Geological Survey Tsunami Hazard Area Map, the SMVR-SB site is outside the inundation zone (CDOC, 2022); such that there is no risk of pollutant release due to inundation from a tsunami. Likewise, there are no enclosed or semi-enclosed bodies of water adjacent to or above the SMVR-SB site. Therefore, there is no risk of pollutant release due to inundation from a seiche. There would be no impact.

Phase 2

Phase 2 work within the 500-year flood hazard, tsunami, and seiche zones includes continuation of the Discharge Structure removal and restoration, and closure of the Intake Structure. The blufftop road segment would be located above coastal water impact areas, including beyond the tsunami hazard level, and far enough back from the cliff edges to not be exposed to coastal flooding. As described in Phase 1, a cofferdam, designed based on wind and wave data from a 50-year storm, would be installed around the Discharge Structure to isolate the work area from the Pacific Ocean; therefore, no increased risk of pollutant release at the Discharge Structure due to inundation from flooding would occur. The openings of the Intake Structure would be sealed with concrete bulkheads, which would be located entirely within the water, below low tide. Construction in this area would be protected from coastal flooding by the Breakwaters, which provide protection from wave run up. In addition, any chemicals, liquid products, and petroleum products (e.g., paints, solvents, and fuels) used on site, and any construction waste generated would be controlled through implementation of the SPCC Plan and SWPPP (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*) (see Table 2-2). As discussed above, tsunamis and seiches are unlikely, and safety protocols and tsunami warning system would reduce the potential for impacts. Construction risk of pollutant release due to inundation from flooding, tsunamis, and seiches would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, operational activities at the DCPP site would include long-term management of the GTCC Waste Storage Facility and operation of the Security Building, indoor Firing Range, and Storage Buildings. These facilities would be supported by an

existing septic and dispersal system in the East Canyon Area. All are located above the 500-year flood elevation and outside the tsunami hazard area; therefore, no impact would occur.

Future Actions. The Marina is within the 500-year flood hazard area of the DCPP site. Marina improvements would include parking lots, public restrooms, and installation of a boat hoist and articulated stairs. The stairs would extend to the water and provide a small platform at the water level. Construction in this area would be protected from coastal flooding by the Breakwaters, which provide protection from wave run up. In addition, any chemicals, liquid products, and petroleum products (e.g., paints, solvents, and fuels) used on site, and any construction waste generated would be controlled through implementation of the SPCC Plan and SWPPP (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*) (see Table 2-2).

The parking, restrooms, septic and dispersal system, and roadways would be set back above coastal water impact areas, including beyond the tsunami hazard level, and far enough back from the cliff edges to not be exposed to coastal flooding (higher than the 500-year flood hazard zone). Operation of the boat hoist and dock, which are within the flood zone, would be protected against wave run up by the Breakwaters, which would provide a safe harbor during storms. As discussed above, tsunamis and seiches are unlikely, and safety protocols and the existing tsunami warning system would reduce the potential for impacts. Therefore, impacts would be less than significant (Class III).

Mitigation Measures for Impact HWQ-6.

MBIO-8 Oil Spill Response Plan. See Section 4.4.

Impact HWQ-7: Conflict with implementation of the Basin Plan, or sustainable groundwater management plan as a result of groundwater dewatering or increased water use (Class III: Less Than Significant).

Phase 1

DCPP Project Site

Basin Plan

The DCPP site is located within the jurisdiction of the CCRWQCB. The CCRWQCB Basin Plan designates beneficial uses for surface and groundwater, sets narrative and numeric water quality objectives, and establishes implementation programs for the Central Coast Region to protect those beneficial uses (CCRWQCB, 2019). The CCRWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements, including NPDES permits. The Proposed Project would comply with all NPDES permit requirements, including the CGP (AC WQ-1, *Construction General Permit*), which would be implemented by PG&E as part of the Proposed Project. The CGP includes implementation of a SWPPP (AC BIO-3, *Site-Specific Stormwater Pollution Prevention Plan*) and use of BMPs during decommissioning activities to reduce pollutants in stormwater runoff.

Groundwater dewatering may be required during removal of below ground structures. Disposal of groundwater can introduce total dissolved solids and other pollutants to surface waters. As discussed above, the Proposed Project would be required to comply with the requirements of the Waste Discharge Requirements NPDES General Permit for Discharges with Low Threat to

Water Quality (Order No. R3-2017-0042, NPDES No. CAG993001; CCRWQCB, 2017). The NPDES General Permit would require testing and treatment of groundwater prior to discharge to protect surface water quality and meet Basin Plan requirements (CCRWQCB, 2019).

Compliance with NPDES permits and ACs as part of the Proposed Project would eliminate conflicts with implementation of the Basin Plan and impacts would be less than significant (Class III).

Sustainable Groundwater Management Plan

The SGMA, passed in 2014, created a framework for sustainable, local groundwater management in California (CDWR, 2021c). High and medium priority basins are currently subject to SGMA requirements, including the requirement of Groundwater Sustainability Agencies to develop and implement Groundwater Sustainability Plans. According to information provided by the CDWR, the DCPP site is not located in an area with a designated groundwater basin (CDWR, 2021a). Because there is no Groundwater Sustainability Plan applicable to the DCPP site, the Proposed Project would not conflict with implementation of a sustainable groundwater management plan. No impact would occur.

Railyards

Pismo Beach Railyard. According to information provided by the CDWR, the PBR site is not located in a designated groundwater basin (CDWR, 2021a). In addition, the Proposed Project would not use any groundwater at the PBR. There would be no impact.

SMVR-SB. The SMVR-SB site is located within the Santa Maria Valley Groundwater Basin, which has been identified by CDWR as a very-low priority basin (CDWR, 2021a). The SGMA only requires high and medium priority basins to develop and implement a Groundwater Sustainability Plan; therefore, there is no Groundwater Sustainability Plan applicable to the SMVR-SB site. In addition, the Proposed Project would not require any use of water at the SMVR-SB site and therefore would not affect groundwater use. There would be no impact.

Phase 2

Phase 2 construction includes soil remediation, demolition of remaining structures, final site restoration (soil grading and landscaping), long-term stormwater management, and closure of the Intake Structure. Similar to Phase 1, the Proposed Project would comply with all NPDES permit requirements and would implement BMPs to reduce pollutants in stormwater runoff. In addition, the Proposed Project would continue to comply with NPDES Permit, including testing and treatment of groundwater prior to discharge to protect surface water quality. Long-term stormwater management in Phase 2 includes installation of post-construction stormwater controls, which would be operable during operations, and development of a SWMP in accordance with the Low Impact Development requirements of the CCRWQCB, and any additional conditions as part of a 401 Water Quality Certification. Compliance with NPDES permit requirements and implementation of the SWMP, the Proposed Project would not conflict with implementation of the Basin Plan (Class III).

As previously described, there is no Groundwater Sustainability Plan applicable to the DCPP site. The County's Coastal Zone Land Use Ordinance (CZLUO) requires project grading to maximize surface drainage to infiltrate and recharge to protect groundwater. The SWMP and Post-

Decommissioning Drainage Plan (MM HWQ-1) would be developed in accordance with Low Impact Development requirements, which includes techniques to limit the amount of impervious surface and increase on-site filtration. With compliance with the SWMP and Post-Decommissioning Drainage Plan (MM HWQ-1) and because there is no Groundwater Sustainability Plan applicable to the DCPP site, Phase 2 activities would not conflict with implementation of a sustainable groundwater management plan.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, operational activities at the DCPP site would include long-term management of the GTCC Waste Storage Facility and operation of the Security Building, indoor Firing Range, and Storage Buildings. Groundwater dewatering would not be required as part of new facility operations. As previously described, there is no Groundwater Sustainability Plan applicable to the DCPP site; therefore, new facility operations would not conflict with implementation of a sustainable groundwater management plan. No impact would occur.

Future Actions. Marina operations, which requires County approval of entitlement, would include a public restroom supported by a septic and dispersal system that would need to meet the County's Local Agency Management Program or Regional Board requirements. Water would not be made available for boat washdown or engine clearance, which would conform to the Basin Plan. Compliance with NPDES permit requirements and implementation of the SWMP would ensure the Proposed Project does not conflict with implementation of the Basin Plan (Class III).

Mitigation Measures for Impact HWQ-7. No mitigation measures are required.

4.11.5 Cumulative Impact Analysis

Geographic Extent Context

The geographic scope for cumulative effects on hydrology and water quality analysis is the area that could have effects overlapping with the Proposed Project, including watersheds of the DCPP and SMVR-SB sites, and the coastal marine system at the DCPP site. In the marine environment, water quality impacts would affect the immediate area and become more dispersed and less significant as distance increases. Therefore, the geographic scope for cumulative impacts in the marine environment could extend for several miles. Land based water quality and hydrology impacts would be limited to the local drainage basin, which extends only about 0.5 mile from the DCPP and SMVR-SB sites.

Several of the projects listed in Table 3-1, particularly the projects in close proximity to the Proposed Project and that involve construction, may entail an adverse impact to hydrology and water quality from their use of materials or the extent of proposed construction, if improperly managed. These projects could also have impacts related to stormwater contamination, runoff, or spills. The projects which are in close proximity to the Proposed Project, all of which involve some degree of construction, include:

Diablo Canyon Power Plant

- Orano System ISFISI Modifications (#1)
- Communications Facility (#2)

Pismo Beach Railyard

- Signal at Bello and Price Canyon Road (#7)
- Public Safety Center (#9)
- Bello Road Paving (#10)
- Price Street Sidewalk Pavers (#11)
- Realign Frady Lane (#12)
- Storm Drain on Wadsworth from Bello to Judkins Middle School (#13)

The Port San Luis Breakwater Repair (#25) is not in close proximity to the Proposed Project, but because it involves a breakwater repair in the same coastal area as the Proposed Project, it could contribute turbidity, which would be in addition to any turbidity increase related to Discharge Structure removal and restoration as part of the Proposed Project. However, because the Port San Luis Breakwater Repair is expected to be complete in 2023 and the Discharge Structure removal and restoration elements of the Proposed Project are scheduled for 2030 to 2033 (see Table 2-10), no overlap would be anticipated because any turbidity associated with the Port San Luis Breakwater Repair would have settled years prior to the Proposed Project.

Cumulative Impact Analysis

Phase 1

The projects which are in close proximity to the Proposed Project and involve some degree of construction could have impacts related to stormwater contamination, runoff, or spills. The impacts from these projects would take place in addition to the impacts from the Proposed Project, which could entail a cumulative impact to hydrology and water quality. Similar to the Proposed Project, each of these projects would adhere to NPDES permit requirements and other state and federal permitting requirements. Therefore, proposed Phase 1 activities, which have been mitigated to a less-than-significant level, would not have cumulatively considerable impacts in addition to other projects in proximity to the Proposed Project.

Phase 2

As discussed under Phase 1, the projects which are in close proximity to the Proposed Project and involve some degree of construction could also have impacts related to stormwater contamination, runoff, or spills, and because all of these projects would entail groundwork, improper management could impact water quality. The Communications Facility (#2), which would be located on a road near the DCPP site, would not be in proximity to Phase 2 work.

The impacts from these projects would take place in addition to the impacts from the Proposed Project, which could entail a cumulative impact to hydrology and water quality. Similar to the Proposed Project, each of these projects would adhere to NPDES permit requirements and other state and federal permitting requirements such that impacts would not be cumulatively considerable.

There are no activities at the PBR or SMVR-SB sites in Phase 2, such that there would be no cumulative impacts at these sites.

4.11.6 Summary of Significance Findings

Table 4.11-1 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project related to hydrology and water quality.

Table 4.11-1 Summary of Impacts and Mitigation Measures – Hydrology and Water Quality

Impact Statement	Impact Significance Class				Mitigation Measures
	Phase 1		Phase 2	Post-Decom	
	DCPP	*PBR/SB*	*DCPP*	*Ops/Marina*	
HWQ-1: Violate any water quality standards or waste discharge requirements, create substantial additional sources of polluted runoff, or require significant additional treatment of dewatered structures, systems, and components	II	III/III	II	NI/II	**EM-2:** Project Plan Updating, Tracking, and Reporting **HWQ-1:** Prepare and Implement Drainage Plans **HWQ-2:** Long-Term Erosion and Sediment Control Plan **HWQ-3:** Clean Marina Lease Provisions
HWQ-2: Degrade surface water quality as a result of chemical spills during decontamination and dismantlement activities or introduce contaminants to surface water as a result of groundwater dewatering during decontamination and dismantlement activities or at the off-site materials handling facilities	II	III/III	II	NI/II	**MBIO-8:** Oil Spill Response Plan **HWQ-1:** Prepare and Implement Drainage Plans **HWQ-2:** Long-Term Erosion and Sediment Control Plan **HWQ-3:** Clean Marina Lease Provisions
HWQ-3: Substantially degrade marine water quality, including increasing turbidity and debris in the marine environment during decontamination and dismantlement activities, or potentially exceed California Ocean Plan salinity requirements or reducing dissolved oxygen concentrations upon cessation of power generation activities	II	NI/NI	II	NI/II	**MBIO-3:** Water Quality Monitoring Plan **HWQ-3:** Clean Marina Lease Provisions **HWQ-4:** Turbidity Monitoring Plan
HWQ-4: Adversely affect the availability of groundwater due to increased water use or excavation dewatering	III	NI/III	III	III/III	None required

Table 4.11-1 Summary of Impacts and Mitigation Measures – Hydrology and Water Quality

Impact Statement	Impact Significance Class				Mitigation Measures
	Phase 1		Phase 2	Post-Decom	
	DCPP	*PBR/SB*	*DCPP*	*Ops/Marina*	
HWQ-5: Increase soil erosion and sedimentation due to removing structures and/or impervious surface areas, altering drainage patterns, or exceeding the capacity of stormwater conveyance structures	II	III/III	II	NI/NI	**EM-2:** Project Plan Updating, Tracking, and Reporting **GEO-5:** Discharge Structure Backfill and Natural Bluff Site Inspection **HWQ-1:** Prepare and Implement Drainage Plans **HWQ-2:** Long-Term Erosion and Sediment Control Plan
HWQ-6: In flood hazard, tsunami, or seiche zones, increase risk of pollutant release from Project activities or stored materials being inundated from flooding	II	III/NI	III	NI/III	**MBIO-8:** Oil Spill Response Plan
HWQ-7: Conflict with implementation of the Basin Plan, or sustainable groundwater management plan as a result of groundwater dewatering or increased water use	III	NI/NI	III	NI/III	None required
Cumulative Impact	Not cumulatively considerable		Not cumulatively considerable		None required

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long-Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

4.12 Land Use, Planning, and Agriculture

This section addresses potential impacts from the Proposed Project related to existing and planned land uses that surround the DCPP site, the proposed rail sites, and the transport routes to each rail site. The environmental setting information provided in Section 4.12.1 and the significance criteria in Section 4.12.3 are used to analyze potential physical impacts related to land uses and agricultural resources in Section 4.12.4. Section 4.12.2 considers the Proposed Project's consistency with the current applicable planning and zoning regulations of affected jurisdictions.

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and considered in preparing this section:

- Assess the disruption to customary functions and uses of Port San Luis and the Harbor District during decommissioning.
- Assess the impact of using the Pismo Beach Railyard (PBR) for decommissioning activities on local community needs and given the residential nature of the area. Include measures to lessen impacts to the local area if the PBR is used during decommissioning including no storage, transport, or handling of hazardous or radioactive materials, restrictions on hours of lighting use, and significant restrictions on the hours of operation.
- Address impacts to the potential rail site located within the County of Santa Barbara's jurisdiction on the former Sugar Beet plant site (Assessor Parcel Number 113-210001).

4.12.1 Environmental Setting

The environmental setting for Land Use, Planning, and Agriculture identifies the existing land uses that surround the DCPP site and the proposed rail sites, and those that are located along the proposed transport routes to each rail site. This section also identifies the existing general plan land use and zoning designations applicable to the Project sites and transport routes. In addition, the section discusses consistency with the County's Local Coastal Program (LCP) related to coastal access. Lastly, notable land uses and sensitive receptors along the proposed transport routes were identified and mapped to support this evaluation.

The environmental setting includes State-designated agricultural resources (i.e., California Department of Conservation designated Important Farmland and Williamson Act lands), which constitute "agricultural land" for the purposes of environmental review under the California Environmental Quality Act (CEQA) (Public Resources Code Section 21060.1).[28] Section 4.12.1 includes a description of these agricultural lands within the surrounding Project area.

[28] PRC Section 21060.1 defines "agricultural land", for the purposes of assessing CEQA environmental impacts, as the Farmland Mapping and Monitoring Program Important Farmland Series map categories, where applicable (DOC, 2022a).

DCPP Site

The Proposed Project site is an area defined by the NRC Part 50 License and is located within an unincorporated area of San Luis Obispo County and is situated along the County's coastline. The DCPP site is designated and zoned by the County as Public Facilities, and is subject to a Combining Designation overlay of Energy/Extractive (EX).[29,30] The DCPP site is surrounded by approximately 12,000 acres of land owned by PG&E or Eureka Energy (i.e., existing Owner-Controlled Area [OCA]), which are designated and zoned as either Public Facilities, Agriculture, or Rural Lands.[31]

Approximately 610 acres of the DCPP Project site are within the coastal zone and approximately 140 acres are located outside of the coastal zone. For Project activities within the coastal zone, a coastal development permit (CDP) and Development Plan (DP) approval from the County must be obtained. For activities outside of the coastal zone, a conditional use permit (CUP) is required. Portions of the DCPP site are also located within tidelands or in areas below the mean high tide line, which is subject to the permitting authority of the California Coastal Commission (CCC). The CCC is a responsible agency for the Proposed Project. The area of the DCPP site within the coastal zone is also within the appeal jurisdiction of the CCC. Appendix C provides further information on the CCC's permitting authority within the coastal zone. Finally, the portion of the DCPP site in tidelands and submerged lands is also under the jurisdiction of the California State Lands Commission (CSLC); therefore, a new lease or lease amendment is required from this agency for Project activities within these areas.

The Pacific Ocean borders the DCPP site to the west and south. The following land uses are located north and east of the DCPP site:

- **North of the DCPP Site.** North Ranch is a PG&E-owned property that surrounds the northern side of the DCPP site. North Ranch includes areas zoned as Agriculture and Rural Lands. PG&E maintains a grazing license for the North Ranch area, and agricultural activities within this area consist primarily of rotational grazing for cattle (PG&E, 2021).[32] Additional land uses further north (outside of the existing OCA) include Montaña de Oro State Park (approximately 1.2 miles north of the DCPP site) and the unincorporated residential community of Los Osos (approximately 8 miles north of the DCPP site).

[29] County of San Luis Obispo's Public Facilities (PF) Land Use designation applies to the 750-acre DCPP site defined by the NRC Part 50 license, and also includes an adjacent 420-acre parcel (APN 076-151-009) extending to the northeast (Parcel T on Figure 2-5 in Section 2, *Project Description*). This land use designation is not intended to be expanded beyond these present properties (San Luis Obispo, 2015).

[30] An EX Combining Designation is used to protect significant resource extraction and energy production areas identified by the Land Use Element from encroachment by incompatible land uses that could hinder resource extraction or energy production operations, or land uses that would be adversely affected by extraction or energy production (San Luis Obispo, 2019).

[31] PG&E estimates the size of the existing OCA (lands owned by PG&E or its wholly-owned subsidiary, Eureka Energy Company) including and surrounding the DCPP site, to be approximately 12,000 acres. Of these lands, approximately 1,170 acres (~10%) are designated/zoned Public Facilities. The remaining approximately 10,830 acres (~90%) are designated/zoned as Agriculture or Rural Lands (San Luis Obispo, 2022a).

[32] Rotational grazing places an entire herd of livestock together in one relatively small pasture (referred to as paddock) for a short period of time (typically a few days) before the herd is moved to the next paddock, allowing the first paddock to rest.

- **East of the DCPP Site.** The eastern and southeastern sides of the DCPP site are surrounded by South Ranch, which is owned by Eureka Energy. South Ranch is zoned as Agriculture (AG) east and southeast of the DCPP site (APN 076-151-013 on Figure 2-5), with the exception of a 420-acre parcel along the northeast side of the DCPP site that is zoned Public Facilities (PF) (APN 076-151-009, see Figure 2-5, Parcel T). PG&E maintains a grazing license for the South Ranch area, and agricultural activities within this area consist primarily of small-scale agricultural crops and cattle grazing (PG&E, 2021). Additional land uses further east include the Wild Cherry Canyon property, a 2,400-acre property zoned as Agriculture that has been targeted for conservation by local interest groups (within the existing OCA, approximately 3 miles southeast of the DCPP site); Hibberd Preserve, a 1,400-acre conservation area owned by The Land Conservancy of San Luis Obispo County (outside of the OCA, approximately 2.7 miles east of the DCPP site) (LCSLO, 2013); Port San Luis Harbor (outside of the OCA, approximately 5.3 miles southeast of the DCPP site); and the unincorporated residential community of Avila Beach (outside of the existing OCA, approximately 6 miles southeast of the DCPP site).[33]

Rail Sites

Decommissioning waste from the DCPP site would be transported by rail to out-of-state disposal facilities. A Santa Maria Valley Railroad (SMVR) site would be used to transfer Class A, B, and C radioactive decommissioning waste from trucks to rail cars. Additionally, as a contingency, non-radiological and non-hazardous waste may be trucked to the PBR site for transport out-of-state via rail for disposal.

- **PBR Site.** The PBR site is a 25.5-acre material and equipment storage facility that is owned by PG&E and is currently used for storage and transportation needs in support of DCPP operations. The site is located at 800 Price Canyon Road within the City of Pismo Beach, approximately 13 miles southeast of the DCPP site. The PBR site is zoned as Service Commercial (CS) and is within the City of Pismo Beach Planning Area O (Industrial) (Pismo Beach, 1993 and 1998).[34] Approximately 1.8 acres of the PBR site are within the coastal zone and 23.7 acres are outside of the coastal zone.

  The PBR site is located approximately 0.3 miles northeast of US-101 within Price Canyon and adjacent to Pismo Creek. The site is surrounded by a mix of uses including undeveloped land to the north with a scattering of residences along Price Canyon Road; a Union Pacific Railroad (UPRR) line and open space to the east, with residential development further east; a wastewater treatment facility and public sports complex to the south; residences to the southwest and west; and a middle school, church, police station, and fire station to the west (west of Price Canyon Road). See Table 4.12-1 for a list of notable land uses located along the Proposed Project transport route within the City of Pismo Beach.

[33] Organizations involved in efforts to conserve Wild Cherry Canyon include the Wildlands Conservancy, Friends of Wild Cherry Canyon, the Land Conservancy of San Luis Obispo County, and the Diablo Canyon Decommissioning Engagement Panel (DCDEP, 2022).

[34] The CS zoning district is applied to areas appropriate for more intensive commercial and non-polluting, light manufacturing and industrial uses. According to City of Pismo Beach Zoning Ordinance, the CS zoning district is consistent with the industrial land use classification of the City of Pismo Beach General Plan/Local Coastal Plan (Pismo Beach, 2021).

- **SMVR-SB Site.** The SMVR-SB site (known as Betteravia Industrial Park) is a 28.4-acre transload and rail facility operated by the SMVR. The site is located at 2820 W. Betteravia Road, in an unincorporated area of Santa Barbara County approximately 1.6 miles west of the City of Santa Maria and approximately 3.2 miles southeast of the City of Guadalupe. The SMVR-SB site has a General Plan designation of Industrial and is zoned as M-2 (General Industry) (Santa Barbara, 2022).[35]

  The SMVR-SB site is bordered to the north by Betteravia Road and agricultural processing uses (on the north side of Betteravia Road), and to the west, south, and east by agricultural fields. See Table 4.12-1 for a list of notable land uses located along the Proposed Project transport route within unincorporated Santa Barbara County.

Table 4.12-1 identifies notable land uses and sensitive receptors surrounding the Project sites (DCPP, PBR, and SMVR-SB) and along the proposed transport routes.[36] It should be noted that for the purpose of the Land Use, Planning, and Agricultural Resources analysis, a sensitive receptor is defined as a land use within 0.25 mile of Proposed Project activities that is particularly sensitive to nuisance effects from construction (e.g., noise, dust, traffic). Examples of sensitive receptors include residences, schools, hospitals, lodging and campgrounds, libraries, churches, nursing homes, auditoriums, and parks. Sensitive receptors are assigned an ID number in Table 4.12-1 corresponding to their location in Figures 4.12-1 through 4.12-4. As residential development is extensive along the proposed transport routes, residences within 0.25 mile of the Proposed Project are illustrated in Figures 4.12-1 through 4.12-4 by a residential land use/zoning designation and are not identified by a Sensitive Receptor ID number.

[35] The M-2 zone provides for all types of industrial uses that are determined to be compatible with surrounding properties. Public works or private service facilities (e.g., equipment and materials storage and corporation yards) are conditionally permitted (minor conditional use permit) within an M-2 zone (Santa Barbara, 2021a).

[36] Two proposed transport routes were evaluated and are illustrated through Table 4.12-1 and Figures 4.12-1, 4.12-2, 4.12-3, and 4.12-4. The "DCPP route" is the proposed transport route from the power plant to US-101. "PBR route" is the proposed transport route from US-101 to PBR. "SMVR-SB route" is the proposed transport route from US-101 to SMVR-SB.

Table 4.12-1. Land Uses Along Proposed Transport Routes

Notable Land Use	Sensitive Receptor ID: See Figures[1]	Jurisdiction	Land Use & Zoning Designations	Distance from Project Route[2]
Port San Luis RV Campground	❶	County of San Luis Obispo	Land Use/Zoning: Public Facilities	0.09 mile southwest of DCPP route (along Avila Beach Dr.)
Flying Flags Avila Beach RV Park	❷	County of San Luis Obispo	Land Use/Zoning: Public Facilities	Adjacent to DCPP route along north side of Avila Beach Dr.
Commercial Recreation Services: Port San Luis Pier	N/A	County of San Luis Obispo	Land Use/Zoning: Public Facilities	0.16 mile southwest of DCPP route (along Avila Beach Dr.)
Port San Luis Lighthouse Trolley Tours	N/A	County of San Luis Obispo	Land Use/Zoning: Agriculture	Adjacent to DCPP route along north side of Avila Beach Dr.
San Luis Bay Inn and Golf Resort	❸	County of San Luis Obispo	Land Use/Zoning: Recreation	Adjacent to DCPP route along north side of Avila Beach Dr.
Avila Beach Park	❹	County of San Luis Obispo	Land Use/Zoning: Recreation	Adjacent to DCPP route along south side of Avila Beach Dr.
Residences	See residential zoning in Figure 4.12-2	County of San Luis Obispo	Land Use/Zoning: Residential Multi-Family	Adjacent to DCPP route along south side of Avila Beach Dr. and up to 0.25 mile south of route
			Land Use/Zoning: Residential Single-Family	0.13 mile south of DCPP route (along San Rafael St.)
Commercial Development	N/A	County of San Luis Obispo	Land Use/Zoning: Commercial Retail	Ranging from 0.02 mile and up to 0.22 mile southwest of DCPP route
Wastewater Treatment Facility	N/A	County of San Luis Obispo	Land Use/Zoning: Public Facilities	Adjacent to DCPP route along north side of Avila Beach Dr.
Unocal Oil Tank Farm	N/A	County of San Luis Obispo	Land Use/Zoning: Industrial	0.06 mile south of DCPP route (south of Avila Beach Dr.)
Sycamore Mineral Springs Resort & Spa	❺	County of San Luis Obispo	Land Use/Zoning: Recreation	Adjacent to DCPP route along south side of Avila Beach Dr.
Residences	See residential zoning in Figure 4.12-2	County of San Luis Obispo	Land Use/Zoning: Rural Lands	Adjacent to DCPP route along south side of Avila Beach Dr.
Bellevue-Santa Fe Charter School	N/A	County of San Luis Obispo	Land Use/Zoning: Public Facilities	0.38 mile north of DCPP route (located along San Luis Bay Dr.)
Avila Valley Barn Market	N/A	County of San Luis Obispo	Land Use/Zoning: Recreation	Adjacent to DCPP route along north side of Avila Beach Dr.

Table 4.12-1. Land Uses Along Proposed Transport Routes

Notable Land Use	Sensitive Receptor ID: See Figures[1]	Jurisdiction	Land Use & Zoning Designations	Distance from Project Route[2]
San Luis Obispo Buddhist Temple	❻	County of San Luis Obispo	Land Use/Zoning: Open Space	0.18 mile northeast of DCPP route (located along Ontario Rd.)
Avila/Pismo Beach KOA Campground	❼	County of San Luis Obispo	Land Use/Zoning: Recreation	0.13 mile north of DCPP route (located along Ontario Rd.)
Avila Hot Springs & RV Park	❽	County of San Luis Obispo	Land Use/Zoning: Recreation	Adjacent to DCPP route along north side of Avila Beach Dr.
Kingdom Hall of Jehovah's Witnesses	N/A	County of San Luis Obispo	Land Use/Zoning: Residential Suburban	0.53 mile northeast of DCPP route (located along Ontario Rd.)
Williamson Act Contract lands	N/A	County of San Luis Obispo	Land Use/Zoning: Agriculture	▪ 1.5 mile north of DCPP route (north of Wild Cherry Canyon) ▪ Ranging from 0.5 mile north to 0.8 mile north of DCPP route (along San Luis Bay Dr.) ▪ Located 0.7 mile east of PBR site (north of Ventana Dr.)
St. Paul's Catholic Church	❾	City of Pismo Beach	▪ Land Use: Public/Semi-Public ▪ Zoning: PF	0.15 mile northwest of PBR route (located along Bello St.)
Pismo Beach Veteran's Hall	❿	City of Pismo Beach	▪ Land Use: Public/Semi-Public ▪ Zoning: PF (Public Facilities)	0.09 mile northwest of PBR route (located along Bello St.)
Pismo Beach Fire and Police Departments	N/A	City of Pismo Beach	▪ Land Use: Public/Semi-Public ▪ Zoning: PF	0.19 mile northwest of PBR route (located along Bello St.)
Judkins Middle School	⓫	City of Pismo Beach	▪ Land Use: Public/Semi-Public ▪ Zoning: PF	0.1 mile west of PBR route (located along Wadsworth Ave.)
Residences	See residential zoning in Figure 4.12-3	City of Pismo Beach	▪ Land Use: High Density Residential ▪ Zoning: RR-H (Resort Residential-High)	Adjacent to PBR route along east side of Price Canyon Rd.
			▪ Land Use: Low Density Residential ▪ Zoning: RSL (Single-Family Low Density Residential)	Adjacent to PBR route along east and west side of Price Canyon Rd.

Table 4.12-1. Land Uses Along Proposed Transport Routes

Notable Land Use	Sensitive Receptor ID: See Figures[1]	Jurisdiction	Land Use & Zoning Designations	Distance from Project Route[2]
Pismo Beach Sports Complex	⓬	City of Pismo Beach	▪ Land Use: Open Space ▪ Zoning: OS (Open Space)	0.18 mile southeast of PBR route (located along Frady Ln.)
Pismo Beach Wastewater Treatment Plant	N/A	City of Pismo Beach	▪ Land Use: Public/Semi-Public ▪ Zoning: PF	0.17 mile southeast of PBR route (located along Frady Ln.)
PG&E-owned storage facility	N/A	City of Pismo Beach	▪ Land Use: Industrial ▪ Zoning CS (Service Commercial)	Proposed PBR site
Commercial Retail	N/A	City of Santa Maria	▪ Land Use: Commercial ▪ Zoning: C-2	Adjacent to SMVR-SB route along north and south sides of Betteravia Rd.
Bill Libbon Elementary School	⓭	City of Santa Maria	▪ Land Use: Public ▪ Zoning: PF	0.20 mile north of SMVR-SB route (located along S. College Dr.)
Fletcher Park	⓮	City of Santa Maria	▪ Land Use: Public ▪ Zoning: OS	0.21 mile south of SMVR-SB route (located along S. College Dr.)
Town & Country Inn	⓯	City of Santa Maria	▪ Land Use: Commercial ▪ Zoning: C-2	0.09 mile south of SMVR-SB route (located along S. Broadway)
Santa Maria Police Department	N/A	City of Santa Maria	▪ Land Use: Public ▪ Zoning: PF	Adjacent to SMVR-SB route along north side
Roberto and Dr. Francisco Jiménez Elementary School	⓰	City of Santa Maria	▪ Land Use: Public ▪ Zoning: OS	0.25 mile north of SMVR-SB route (located along Biscayne St.)
Residences	See residential zoning in Figure 4.12-4	City of Santa Maria	▪ Land Use: Residential ▪ Zoning: R-1; RSL-1; R-2; R-3 (High Density)	Adjacent to SMVR-SB route along north side. Also ranging from 560 feet to 0.25 mile south of SMVR-SB route
Field crops	N/A	City of Santa Maria	▪ Land Use: Industrial ▪ Zoning: CM (Commercial Manufacturing)	Adjacent to SMVR-SB route along south side
			▪ Land Use: Public ▪ Zoning: OS	0.08 mile south of SMVR-SB route (located along Berry Ln.)
Santa Maria Airport	N/A	City of Santa Maria	▪ Land Use: Airport ▪ Zoning: AS-I (Service I); AS-II (Service II); CZ (Airport Clear Zone)	0.67 mile south of SMVR-SB route (located along Skyway Dr.)

Table 4.12-1. Land Uses Along Proposed Transport Routes

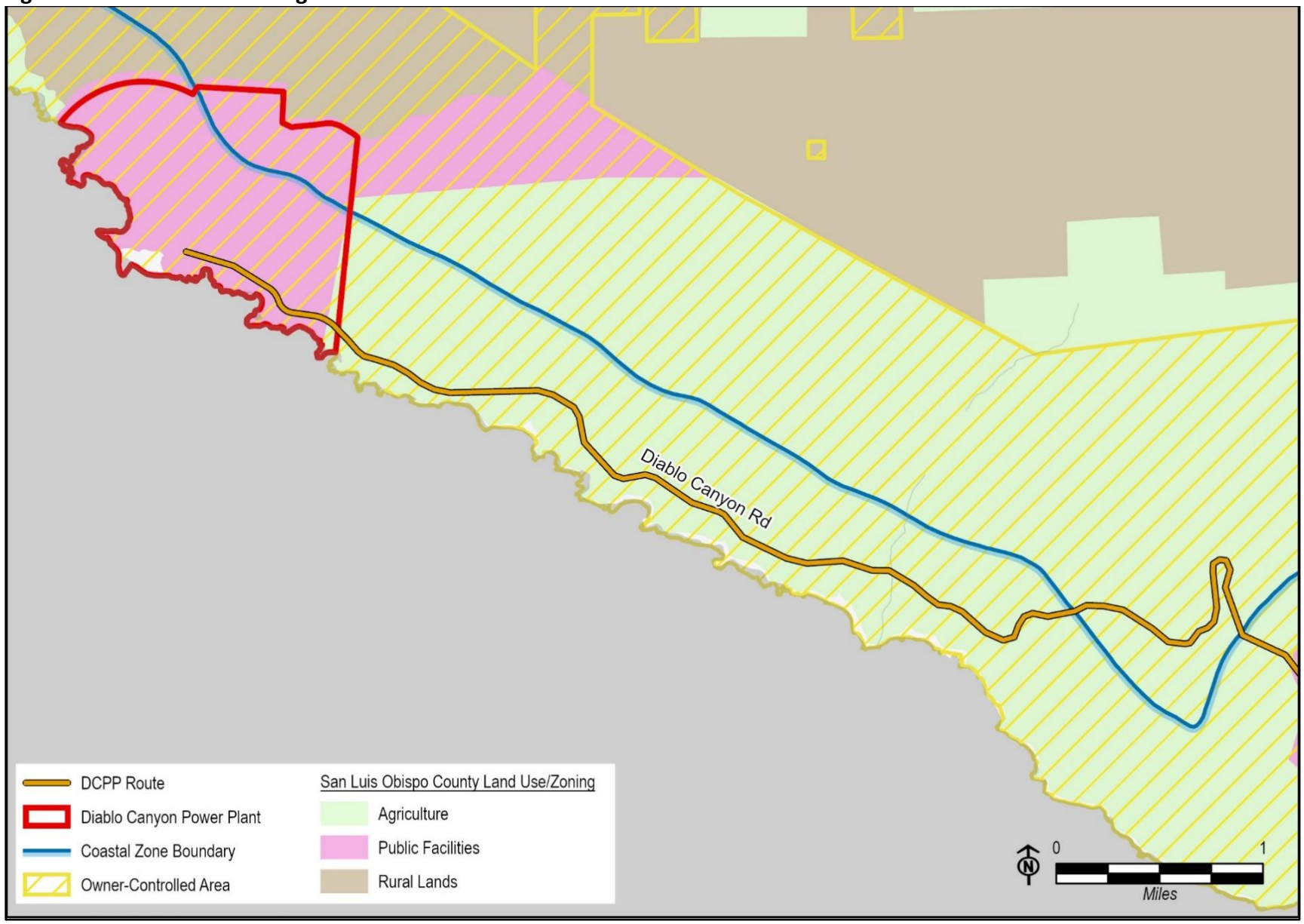
Notable Land Use	Sensitive Receptor ID: See Figures[1]	Jurisdiction	Land Use & Zoning Designations	Distance from Project Route[2]
Manufacturing and Waste management services	N/A	County of Santa Barbara	▪ Land Use: Industrial ▪ Zoning: M-2 (General Industry)	Adjacent to SMVR-SB route along south side of Betteravia Rd.
Agricultural Preserve (Williamson Act)	N/A	County of Santa Barbara	▪ Land Use: Agricultural ▪ Zoning: AG-II-100 (minimum gross lot of 100 acres)	Adjacent to SMVR-SB route along north side of Betteravia Rd. Also ranging from 0.63 mile south of SMVR-SB route and 0.67 mile northwest of proposed SMVR-SB site
Field crops	N/A	County of Santa Barbara	▪ Land Use: Industrial ▪ Zoning: M-2	Adjacent to SMVR-SB route along south side of Betteravia Rd.
Agricultural Processing Uses	N/A	County of Santa Barbara	▪ Land Use: Industrial ▪ Zoning: M-2	Adjacent to SMVR-SB route along north side of Betteravia Rd.
Betteravia Industrial Park	N/A	County of Santa Barbara	▪ Land Use: Industrial ▪ Zoning: M-2	Proposed SMVR-SB site

Source: Pismo Beach, 1993 and 1998; Santa Maria, 2012 and 2019; San Luis Obispo, 2022a; Santa Barbara, 2022; Google Earth Pro, 2021; Santa Barbara County Conservation Blueprint (SBC) Atlas, 2015.

[1] Sensitive Receptor ID numbers correspond to Figures 4.12-1 through 4.12-4. N/A indicates the land use is not a sensitive receptor (i.e., either not particularly sensitive to nuisance effects from construction, or greater than 0.25 mile from Proposed Project activities).

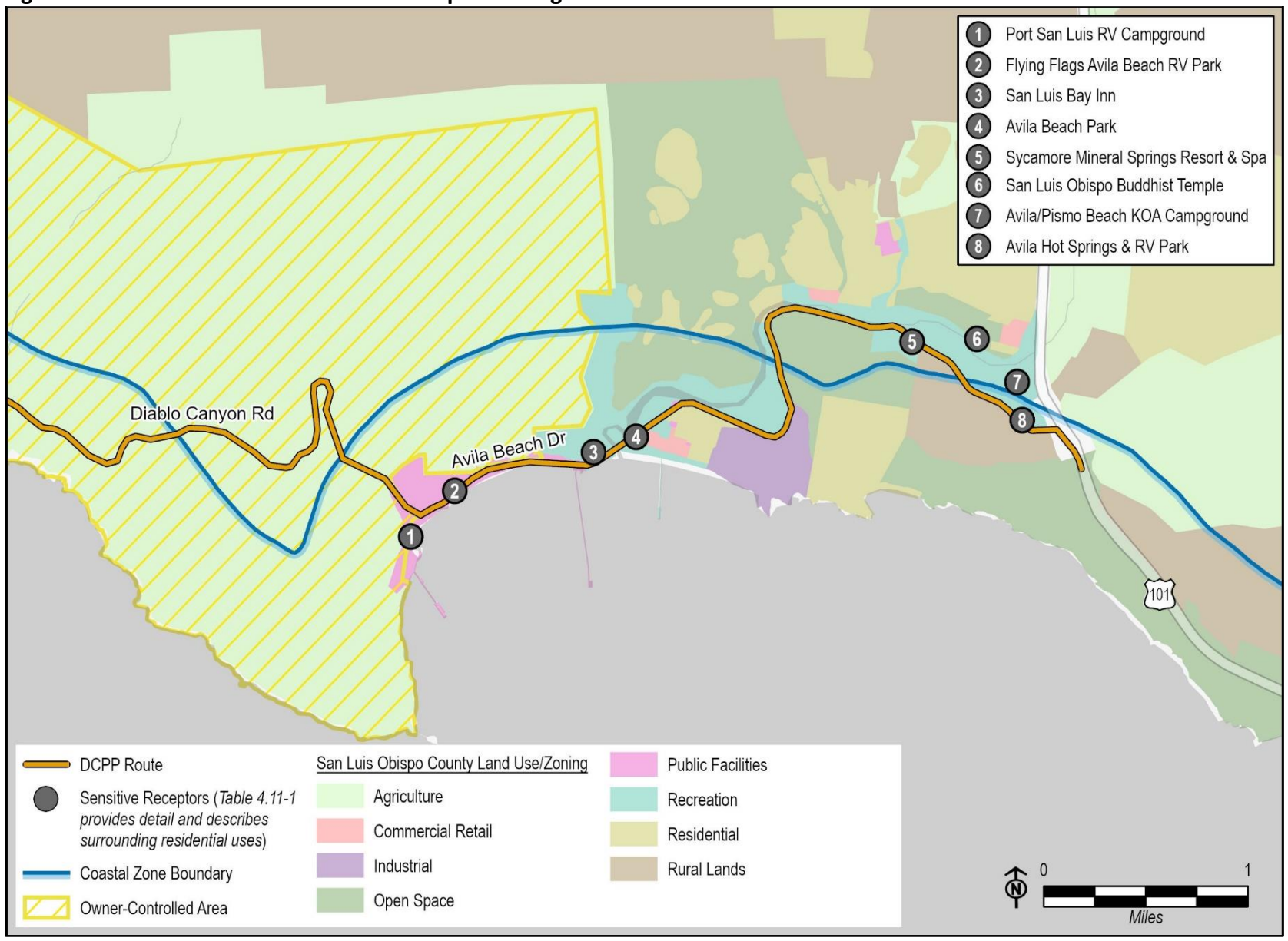
[2] "DCPP route" is the proposed transport route from DCPP to US-101. "PBR route" is the proposed transport route from US-101 to PBR. "SMVR-SB route" is the proposed transport route from US-101 to SMVR-SB.

Figure 4.12-1. Land Uses along DCPP Route to Avila Beach



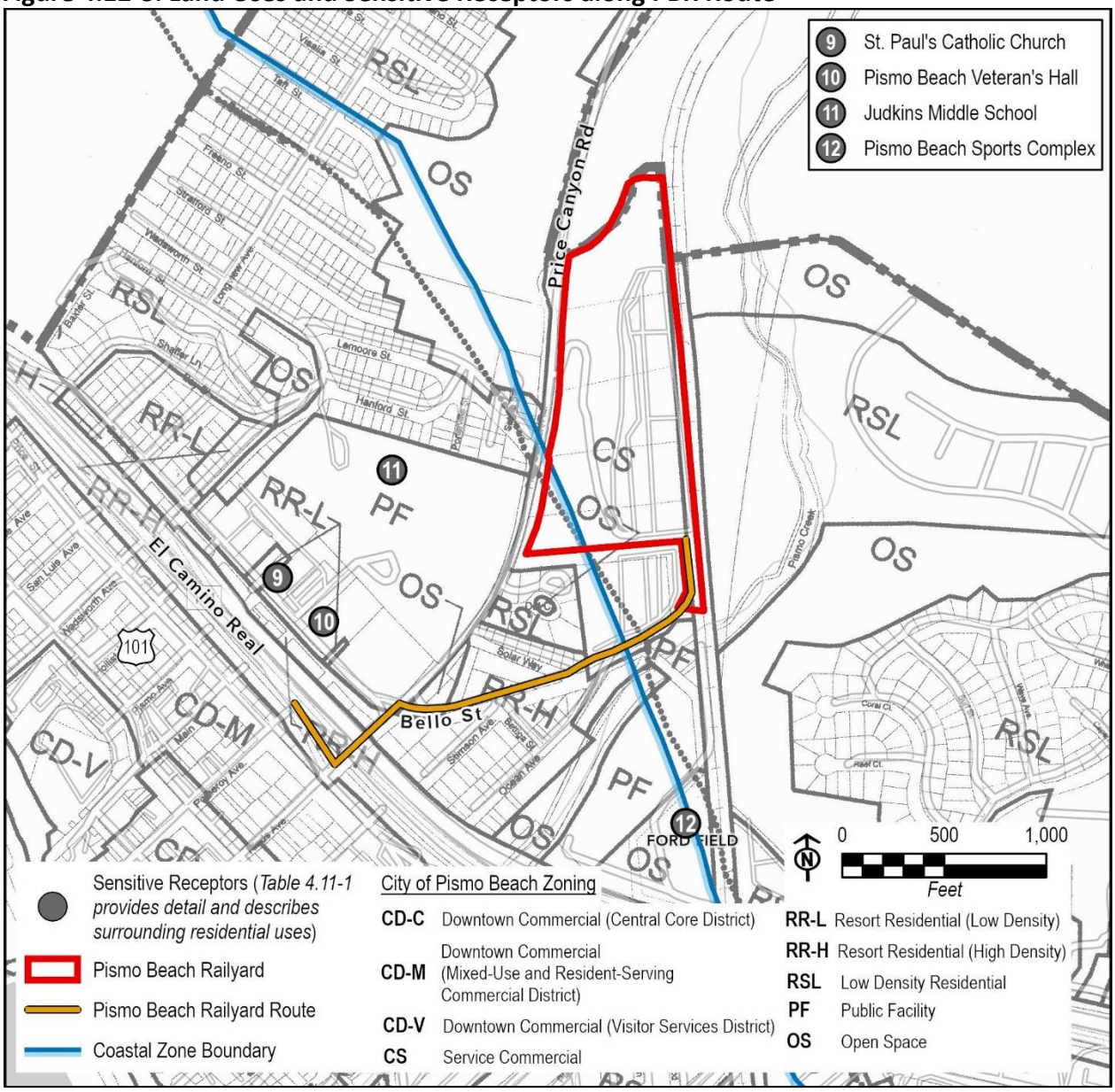
Source: PG&E, 2021; San Luis Obispo, 2021.

Figure 4.12-2. Land Uses and Sensitive Receptors along DCPP Route - Avila Beach to US-101



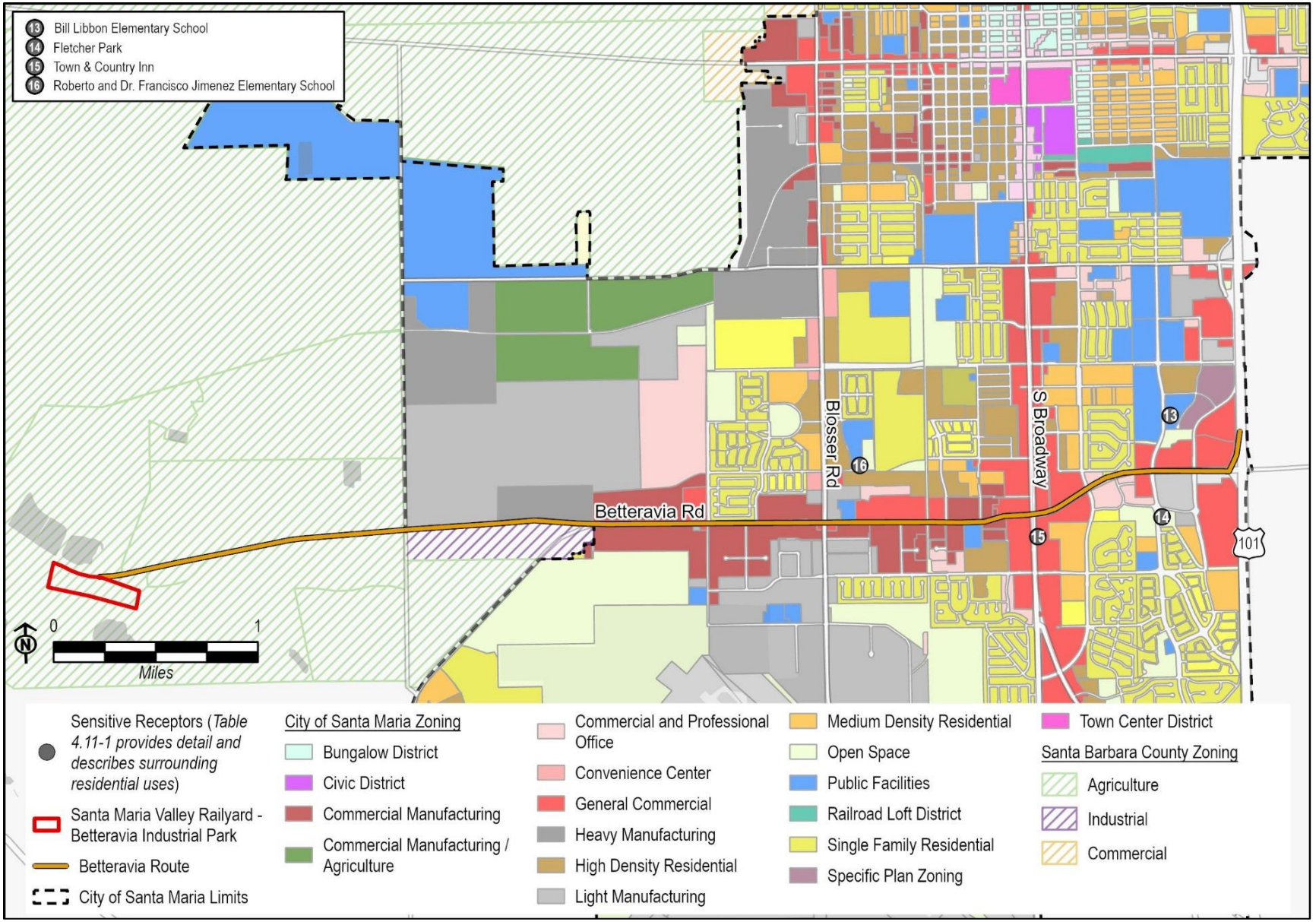
Source: PG&E, 2021; San Luis Obispo, 2021; Parcel Quest, 2021.

Figure 4.12-3. Land Uses and Sensitive Receptors along PBR Route



Source: PG&E, 2021; Pismo Beach, 1998.

Figure 4.12-4. Land Uses and Sensitive Receptors along SMVR-SB Route



Source: PG&E, 2021; Santa Barbara, 2021a; Santa Maria, 2019.

California Department of Conservation Important Farmland

The California Department of Conservation (DOC) provides designations for Important Farmland throughout the State through its Farmland Mapping and Monitoring Program. The categories of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land constitute "agricultural land" for the purposes of environmental review under CEQA (DOC, 2022b).

- **Prime Farmland.** Prime Farmland is characterized with the best combination of physical and chemical features able to sustain long-term agricultural production (DOC, 2022b). Prime Farmland is located adjacent to the following Proposed Project component:[37]
  - DCPP Site and Route. Prime Farmland is located adjacent to the DCPP route along the northern side of Avila Beach Drive approximately 0.28 mile west of US-101. No Prime Farmland is located within the DCPP site (NRC Part 50 License boundary) or within the existing OCA properties that surround it.
- **Farmland of Statewide Importance.** Farmland of Statewide Importance is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture (DOC, 2022b). Farmland of Statewide Importance is located adjacent to the following Proposed Project component:
  - SMVR-SB Route. Farmland of Statewide Importance is scattered along the SMVR-SB route to the north and south of Betteravia Road, primarily west of Berry Lane.
- **Unique Farmland.** Unique Farmland is characterized as lesser quality soils used for the production of the state's leading agricultural crops (DOC, 2022b). Unique Farmland is located adjacent to the following Proposed Project component:
  - SMVR-SB Route. Unique Farmland is located adjacent to the SMVR-SB transport route, along the north and south sides of Betteravia Road, primarily west of Berry Lane.
- **Farmland of Local Importance.** This Important Farmland type is characterized as having importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee (DOC, 2022b). Farmland of Local Importance is located adjacent to the following Proposed Project component:
  - DCPP Site and Route. Approximately 157 acres of Farmland of Local Importance is located within the existing OCA and along Diablo Canyon Road.
- **Grazing Land.** Grazing Land is characterized as having vegetation that is suitable for the grazing of livestock (DOC, 2022b). Grazing Land is located adjacent to the following Proposed Project components:
  - DCPP Site and Route. Approximately 409 acres of Grazing Land are located within the DCPP site. The proposed SE Borrow Site would be located within a portion of this designated Grazing Land that is east of the 500-kV Switchyard. An additional 6,103 acres of Grazing Land

[37] "DCPP route" is defined as the proposed transport route from the DCPP site to US-101. "PBR route" is defined as the proposed transport route from US-101 to the PBR site. "SMVR-SB route" is defined as the proposed transport route from US-101 to the SMVR-SB site.

are located outside of the DCPP site within the existing OCA and include Grazing Land adjacent to the DCPP route along Diablo Canyon Road.

- PBR Site and Route. Grazing Land abuts the PBR site to the north.
- SMVR-SB Route. Grazing Land abuts the SMVR-SB site to the west, south, and east.

- **Farmland of Local Potential.** Farmland of Local Potential identifies lands that have the potential for farmland, as they have Prime or Statewide characteristics but are not cultivated (DOC, 2018). Farmland of Local Potential is located adjacent to the following Proposed Project components:
  - DCPP Site and Route. Approximately 3 acres of Farmland of Local Potential are located within the DCPP site, with another 547 acres located within the surrounding OCA. Farmland of Local Potential is also scattered along Avila Beach Drive adjacent to the DCPP route.
  - PBR Site and Route. Approximately 61.9 acres of Farmland of Local Potential are located east of the PBR site, adjacent to the eastern side of the UPRR.

Williamson Act Lands

The Williamson Act, also known as the California Land Conservation Act of 1965, enables local governments (e.g., County of San Luis Obispo) to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive a reduction of property taxes. During this contract period (i.e., 10- or 20-year agreement), this land cannot be developed or otherwise converted to another use (San Luis Obispo, 2022b).

Williamson Act lands are located outside of the existing OCA and north of Wild Cherry Canyon. None of the Proposed Project activities would occur on lands that are under a Williamson Act contract. Table 4.12-1 above identifies the location of Williamson Act lands relative to the proposed transport routes.

4.12.2 Regulatory Setting

This section identifies the plans and policies that are applicable to the Proposed Project and provides an evaluation of the Project's consistency with those plans and policies. Relevant federal and State laws, regulations, and policies that pertain to the Proposed Project are summarized in Appendix C.

Local Plans

Local cities and counties within the coastal zone develop LCPs that are reviewed by the CCC for consistency with the Coastal Act requirements. Upon certification of an LCP, the CCC transfers coastal permitting authority to the local government, with the exception of proposed development on tidelands, submerged lands, and public trust lands for which permitting authority is retained by the CCC. As portions of the DCPP site are located within tidelands and submerged lands, proposed activities within these areas require a CDP from the CCC.

As discussed below, the County of San Luis Obispo and the City of Pismo Beach have certified LCPs that are applicable to the Proposed Project. These LCPs carry out the policies of the Coastal

Act while also addressing issues that are specific to the natural resources and land uses within their respective coastal planning areas.

County of San Luis Obispo

General Plan

The County's General Plan consists of nine separate elements that identify particular resources or issues within the County and provides guidance for future planning decisions. Two elements that are relevant to the Land Use, Planning, and Agricultural analysis include the Agriculture Element and the Land Use and Circulation Element, which includes an applicable policy specific to agricultural buffers. The Land Use and Circulation Element is the most extensive element within the County's General Plan and incorporates the components of the County's LCP, described below.

Local Coastal Program

The County's LCP was certified by the CCC on February 25, 1988. The County's LCP includes a combination of the County's Coastal Zone Land Use Ordinance, as well as the following coastal components from the Land Use and Circulation Element:

- **Coastal Plan Policies:** Identifies the County's policy commitments to implement the mandates of the California Coastal Act (CCA) and identifies uses that are principally permitted within the boundaries of the LCP. Applicable Coastal Plan Policies address the location of access and construction roads for energy development (San Luis Obispo, 2007). [38]
- **Coastal Zone Framework for Planning:** Specifies the uses that are allowed within the coastal zone for each of the County's land use categories. Applicable Framework objectives identify requirements for site restoration within an Energy or Extractive Area (EX) combining designation overlay, which applies to the DCPP site (San Luis Obispo, 2018).
- **Area Plans:** Establish planning area standards that set specific requirements within the coastal zone. The San Luis Bay Area Plan (Coastal) includes planning area standards for the DCPP site as well as the surrounding canyon and coastal terrace (San Luis Obispo, 2009).

City of Pismo Beach

The City of Pismo Beach General Plan and LCP is a combined plan to regulate land use and development that meets both General Plan requirements and Coastal Plan requirements. The southern portion of the PBR site is located within the City's coastal zone boundary, while the northern portion of the site is outside of the coastal zone. A relevant policy from the Land Use Element addresses future use of the PBR site (Pismo Beach, 1993).

City of Santa Maria

The City of Santa Maria General Plan provides guidance for development within the City's jurisdictional boundaries. There are no specific policies from the Land Use Element or the Resource

[38] A principally permitted use does not require the issuance of a conditional use permit but may be subject to site plan and architectural approval, planned unit development approval, or planned development approval.

Management Element that apply to proposed truck transport activities through the City of Santa Maria along Betteravia Road (Santa Maria, 2011). However, Betteravia Road also serves as the southern boundary for the City's Area 9 Specific Plan, which includes goals and development standards to protect sensitive land uses from incompatible activities such as truck delivery within residential areas (Santa Maria, 2012).

County of Santa Barbara

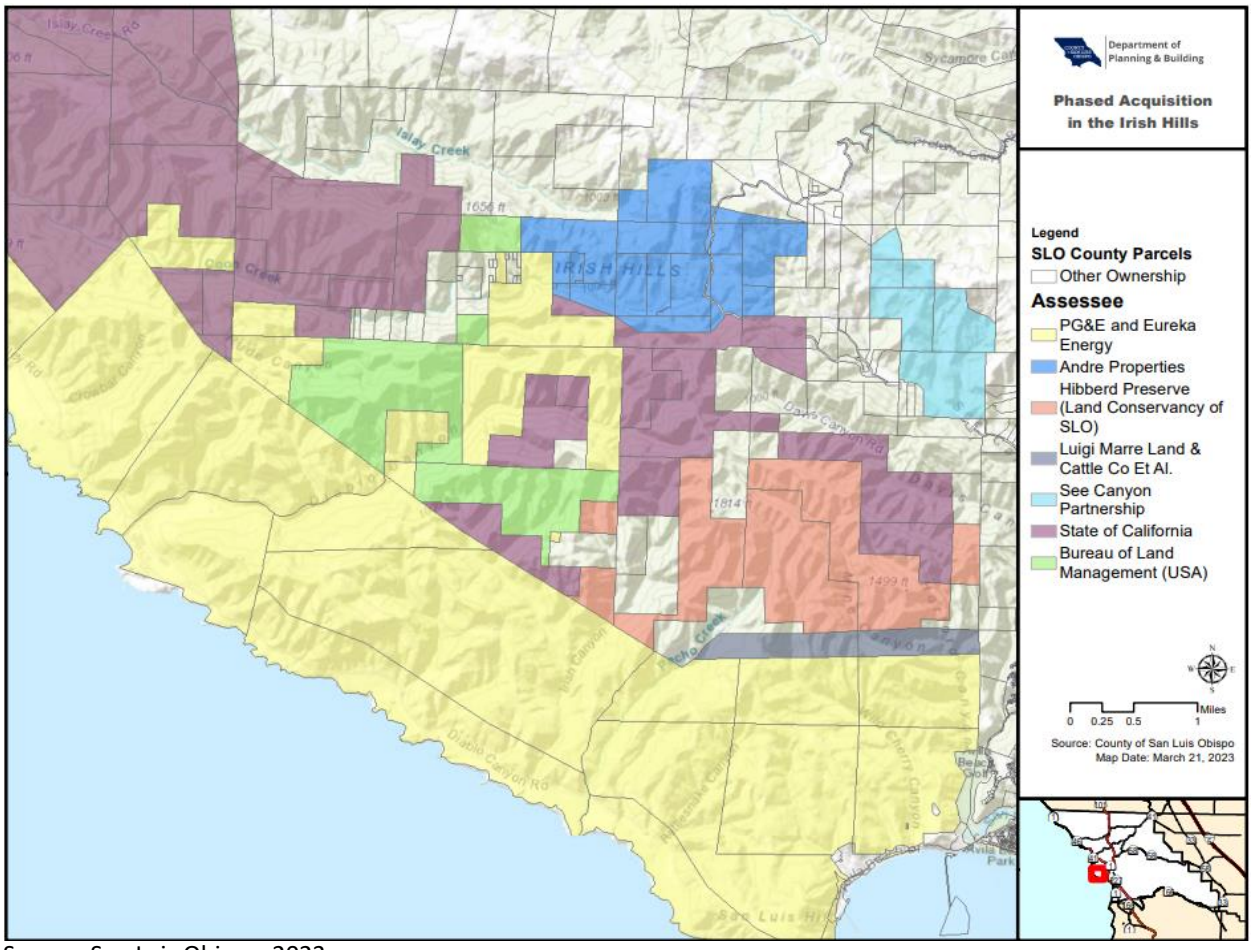
The Santa Barbara County Comprehensive Plan provides guidance for development within the coastal and non-coastal unincorporated areas of Santa Barbara County, which include the proposed SMVR-SB site. As the SMVR-SB site is outside of the County's coastal zone boundary, non-coastal elements such as the Agricultural Element and the Land Use Element would be relevant to this analysis, which includes a policy specific to the preservation of agricultural land (Santa Barbara, 2009). As described in Section 1.3.3.2, Surface Transportation Board, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction over railyard sites (e.g., SMVR-SB).

State Plans

Montaña de Oro State Park General Plan

The Montaña de Oro State Park General Plan, approved in 1988, describes the long-term development plan for the state park (California State Parks, 1988). One of the goals identified in the plan is the creation of a trail right-of-way easement from the southern edge of Montaña de Oro State Park to the northern edge of lands overseen by Port San Luis, near Avila Beach. Prior to 1988, PG&E had acquired the Field Ranch property, located adjacent to the southern boundary of Montaña de Oro State Park, as a northern addition to PG&E's Diablo lands that lie north and south of the DCPP. As described in the General Plan, California State Parks conducted a feasibility study of operating the lands owned by PG&E, with a joint goal of also opening portions of it to the public. The 1988 General Plan also considered developing a loop trail corridor across other sections of Field Ranch, which would expand public access in the area without interfering with DCPP operations, as well as procuring additional lands within the Coon Creek watershed, and along the Point Buchon Marine terrace and its viewshed. The funding for these trails and land acquisition has not yet been secured, but continued efforts to expand the State Parks' oversight of lands in the Irish Hill and other parcels near DCPP lands have been ongoing since the General Plan was issued in 1988, as illustrated in Figure 4.12-5.

Figure 4.12-5. Phased Acquisition in the Irish Hills



Source: San Luis Obispo, 2023.

Policy Consistency

Table 4.12-2 includes a list of local regulations and policies relevant to land use and agricultural resources. Tables 4.12-3 and 4.12-4 include a list of LCP regulations and policies pertaining to coastal access for new development, as defined under the CCA and County's LCP, as well as a preliminary evaluation of the Proposed Project's consistency with each of these regulations and policies.

Table 4.12-2. Consistency with Applicable Land Use and Agriculture Plans, Policies, and Standards

Plan/Policy	Consistent?	Discussion
County of San Luis Obispo General Plan		
Policy AGP17: Agricultural Buffers Protect land designated Agriculture and other lands in production agriculture by using natural or man-made buffers where adjacent to non-agricultural land uses in accordance with the agricultural buffer policies adopted by the Board of Supervisors (see Agricultural Element Appendix C).	Consistent	Phase 1 and Phase 2 activities would occur entirely within the 750-acre DCPP site, which is designated and zoned by the County as Public Facilities. No decommissioning or restoration activities would extend outside of this 750-acre area into designated agricultural lands. Transport activities from the DCPP site to the rail sites would utilize the existing road network and would not impact agricultural lands along the roadways.

Table 4.12-2. Consistency with Applicable Land Use and Agriculture Plans, Policies, and Standards

Plan/Policy	Consistent?	Discussion
County of San Luis Obispo Local Coastal Program, Coastal Plan Policies		
Chapter 4: Energy & Industrial Development **Policy 20: Access and Construction Roads** Access and construction roads should be located to minimize landform alterations. road grades and alignments should follow the contour of the land where feasible.	Consistent	Decommissioning activities would utilize existing access roads within the OCA. Existing roadways that would not be required for ISFSI and GTCC Storage operations would be removed and restored to a natural condition. During Phase 2, a Blufftop Road Segment would be constructed to connect Diablo Canyon Road and North Ranch Road/Pecho Valley Road. This road would restore historic access through Diablo Canyon lands, although the road would remain a private road. Construction of the Blufftop Road Segment would be consistent with this policy as it would follow the contour of the land. It would also follow the alignment of the existing culverted road over Diablo Creek.
County of San Luis Obispo Coastal Zone Framework for Planning		
EX- Energy or Extractive Area General Objective 4 Applications for proposed extraction operations should include plans for pre-serving the long-term productivity of the site as well as site restoration after termination of extraction operations. In addition, riparian corridors and habitats shall be identified prior to the develop-ment and shall be restored and enhanced as a condition of the required land use permit.	Consistent	With the exception of the facilities identified in Figure 2-16, all DCPP structures would be removed following decommissioning. The Proposed Project would remediate and restore the DCPP site in accordance with County grading requirements during Phase 2. In addition, MM BIO-2 would implement a habitat restoration and revegetation plan, which is consistent with this policy. The activities that would occur under the Proposed Project support the requirements of this policy.
County of San Luis Obispo, San Luis Bay Area Plan (Coastal)		
Chapter 8: Planning Area Standards Agriculture 1. Minimum Parcel Size - Diablo Coastal Terrace The minimum parcel size for new land divisions is 80 acres unless the Coastal Zone Land Use Ordinance would require a larger parcel size. The agricultural parcels owned by Pacific Gas and Electric shall remain in a consolidated holding to maintain the low population zone surrounding the Diablo Canyon Nuclear Power Plant.	Consistent	The Proposed Project does not include new land divisions within the OCA, and therefore would not create a conflict with this planning standard. As described in Section 2.4.3, the DCPP site would remain under an NRC Part 50 facility operating license until the site meets radioactivity release criteria for unrestricted use, in accordance with NRC regulations. Thereafter, the ISFSI and GTCC Waste Storage Facility in the revised OCA would be under an NRC Part 72 license for storage of nuclear waste. Future reuse of the DCPP site could occur after decommissioning is complete and the Part 50 license is terminated. Future Site Reuse Concepts are addressed in Chapter 8 of this EIR (*Potential Site Reuse Concepts*).

Table 4.12-2. Consistency with Applicable Land Use and Agriculture Plans, Policies, and Standards

Plan/Policy	Consistent?	Discussion
Chapter 8: Planning Area Standards **EX 5. Diablo Canyon Nuclear Power Plant Access** Access to the power plant site is to remain in control of Pacific Gas and Electric Company. Development of adjacent land shall not provide access to the power plant site.	Consistent	The Proposed Project does not include new land divisions within the existing OCA. Phase 1 and Phase 2 activities would continue to be managed by PG&E within a secure facility. There would be no conflict with this planning standard.
Chapter 8: Planning Area Standards **SRA 10. Upper Diablo Canyon-Access Limitation** Further construction of access roads through upper Diablo Canyon (mapped in Area Plan Figure 8-1) is prohibited.	Consistent	Decommissioning activities would utilize existing access roads within the DCPP site. During Phase 2, a Blufftop Road Segment would be constructed to connect Diablo Canyon Road and North Ranch Road/Pecho Valley Road. This road would restore historic access through Diablo Canyon lands. No new access roads are proposed within upper Diablo Canyon. There would be no conflict with this planning standard.
City of Pismo Beach General Plan and Local Coastal Program		
LU-O-4: PG&E Lands The PG&E lands should be heavily landscaped, particularly to soften the view from Price Canyon Road. For the long-term, the PG&E site is too prominent and central a site to be used for this open storage use. PG&E should be encouraged to consider other more appropriate long-term uses of this site, such as for administrative offices. Any changes in use of the PG&E land shall require a specific plan. Alternative uses that may be considered without a change in the General Plan are: – Low and Moderate Income Housing – Resort Commercial	Consistent	The proposed Phase 1 activities at the PBR site would occur in previously disturbed and actively used areas, and there would be no change in use of the site during Phase 1. Modifications at the PBR site would be limited to refurbishing approximately 1,100 feet of existing track, and no new structures or other permanent features would be constructed. The PBR site would continue to operate during normal business hours (7:00 a.m.-5:00 p.m. Monday-Friday), and any truck transport activity through the PBR site would avoid peak traffic periods (7:00-9:00 a.m. and 3:00-6:00 p.m.), including the morning and afternoon drop-off and pickup period for students at Judkins Middle School.
City of Santa Maria Area 9 Specific Plan		
Development Standard #17 **Truck Delivery Limitations** Truck delivery areas shall be shielded from adjacent sensitive uses such as mixed-use residential units within the Plan area and residential uses east of A Street.	Consistent	This development standard is intended to minimize noise impacts to residences adjacent to truck delivery areas. The Proposed Project includes self-adjusting backup beepers that use the lowest backup noise level and will disallow engine compression breaking to reduce noise related to braking and backup beepers as well as use low noise design equipment (AC NOI-1*, Reduce Truck Traffic Noise* and AC NOI-2, *Reduce Construction Noise)* to avoid or substantially reduce noise along truck haul routes along Betteravia Road.

Table 4.12-2. Consistency with Applicable Land Use and Agriculture Plans, Policies, and Standards

Plan/Policy	Consistent?	Discussion
Santa Barbara County Comprehensive Plan		
Agricultural Element, Policy II.D Conversion of highly productive agricultural lands whether urban or rural, shall be discouraged. The County shall support programs which encourage the retention of highly productive agricultural lands.	Consistent[1]	Transport activities to the SMVR-SB site would utilize the existing road network and would not impact agricultural lands along the roadways. All modifications to the SMVR-SB site would remain entirely within the railyard property and would not extend into designated agricultural lands. There would be no conflict with this policy.
Santa Barbara County Land Use and Development Code		
Section 35.25- Industrial Zones M-2 (General Industry) zone. The M-2 zone is intended to provide areas for all types of industrial uses while providing the level of project review necessary to ensure that adverse impacts will be minimized and that these uses will be compatible with surrounding properties. **Allowed Land Use and Permit Requirements for an M-2 zone.** Truck or freight terminal is a permitted use (Land Use Permit required).	Consistent[1]	The SMVR-SB site is zoned M-2. The intent of the County of Santa Barbara's M-2 zone is to provide for all types of industrial uses while also providing the necessary level of project review to ensure that adverse impacts will be minimized and that uses will be compatible with surrounding properties (Santa Barbara, 2021a). The County of Santa Barbara indicated that proposed SMVR-SB activities would be compatible with allowable uses in an M-2 zone (Santa Barbara, 2021b). The County further stated that it would require a revision to the site's existing Development Plan based on the additional equipment, traffic, and expanded use of the SMVR-SB site, and that this Development Plan would be subject to approval by the Planning Commission (Santa Barbara, 2021b). Once the revised Development Plan is approved by the Planning Commission, a follow-up Zoning Clearance would be required to effectuate the Development Plan (Santa Barbara, 2021b).

Sources: Pismo Beach, 1993; Santa Maria, 2012; San Luis Obispo, 2007, 2009, 2010, 2018, and 2022c; Santa Barbara, 2009, 2021a, and 2021b.

[1] As described in Section 1.3.3, *Federal*, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction over railyard sites (e.g., SMVR-SB).

Table 4.12-3. San Luis Obispo County Local Coastal Program Consistency – Coastal Access for New Development

San Luis Obispo County Local Coastal Program Standards	Consistent?	Discussion
Shoreline Access Policy 2 – New Development states, in relevant part: *Maximum public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development. Exceptions may occur where (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources; (2) adequate access exists nearby, or; (3) agriculture would be adversely affected. Such access can be lateral and/or vertical. Lateral access is defined as those accessways that provide for public access and use along the shoreline. Vertical access is defined as those accessways which extend to the shore, or perpendicular to the shore in order to provide access from the first public road to the shoreline.*	Consistent	The public has not had the right of access to the ocean near or from the 750-acre Project site because of federal regulations related to the safety and security of radioactive materials. In addition, after the September 11, 2001 terrorist attacks, the US Coast Guard established a 2,000-yard offshore security exclusion zone that prohibits vessels near the DCPP. Decommissioning activities, which constitute new development pursuant to the LCP and CCA, would continue to preclude the public from the right of access to the shoreline and sea. The closest public roadways to the DCPP site are Avila Beach Drive, approximately 7 miles to the south, and North Ranch Road/Pecho Valley Road about 4.5 miles to the north within Montaña de Oro State Park. Limited public coastal access along the shoreline is provided by PG&E in perpetuity north and south of the DCPP site. These existing trails operate under managed programs. Permit conditions for the DP/CDP/CUP would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR and would be recommended by staff to require the careful and detailed study, identification, development, construction, implementation, and management of a Diablo Lands Connector Trail. The trail would be consistent with security and public safety requirements and protective of fragile coastal resources and agriculture. These permit conditions would address compliance with the CCA and LCP requirements for coastal access as a result of new development and given that the public has been precluded from accessing the DCPP shoreline since construction of the plant began in 1968. The Project is consistent with this policy because a new Diablo Lands Connector Trail would be developed and managed in perpetuity to provide additional public access to coastline.

Table 4.12-3. San Luis Obispo County Local Coastal Program Consistency – Coastal Access for New Development

San Luis Obispo County Local Coastal Program Standards	Consistent?	Discussion
Shoreline Access Policy 3 – Access Acquisition states, in relevant part: *In implementing the above policies, purchase in fee (simple) is to be used only after all other less costly alternatives have been studied and rejected as inappropriate or infeasible. In addition to fee simple purchase and offers of dedication or deed restriction for public access as a condition of development approval, other alternatives may include the purchase of easements, or the establishment of in-lieu fees where access is not appropriate. Offers-to-dedicate and deed restrictions to allow for public access are the most frequently used means of guaranteeing public access. Deed restrictions are most appropriate for large projects which are in single ownership and where continuity can be maintained over time.*	Consistent	Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, identification, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address the Project's compliance with the CCA and LCP requirements for coastal access. The permit conditions would require an Offer to Dedicate that will generally connect the area south of the DCPP site to the area north of the site. The Offer to Dedicate would be temporarily undefined until the final location of the public access easement is determined based on a comprehensive environmental assessment. Therefore, with implementation of the permit conditions, the Proposed Project is consistent with this policy.
Shoreline Access Policy 4 – Provision of Support Facilities and Improvements states, in relevant part: *Facilities necessary for public access shall be provided. This may include parking areas, restroom facilities, picnic tables or other such improvements. The level of these facilities and improvements should be consistent with the existing and proposed intensity and level of access use and provisions for ongoing maintenance…*	Consistent	Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, identification, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address compliance with the CCA and LCP requirements for coastal access for new development. The permit conditions would require the Applicant to study, define, and record an Offer to Dedicate for a new connecting public trail linking the area north of the DCPP site with the area south of the site. A permit condition would require preparation of a Trail Design Plan for County entitlement that identifies the route selected and all improvements, parking, and services necessary for full compliance with the identified goals and policies for coastal access. The entitlement process would ensure the amenities and facilities are consistent with applicable policies and appropriate for the intensity of use. Another permit condition would require a Trails Operations and Management Plan outlining the management of all trail features, amenities, and public access support facilities necessary for the new trail. The Proposed Project would be consistent

Table 4.12-3. San Luis Obispo County Local Coastal Program Consistency – Coastal Access for New Development

San Luis Obispo County Local Coastal Program Standards	Consistent?	Discussion
		with this policy with implementation of the permit conditions.
Shoreline Access Policy 5 – Acceptance of Offers to Dedicate states, in relevant part: *Dedicated accessways shall not be required to be opened to public use until a public agency or private association agrees to accept the responsibility for maintenance and liability of the accessway. New offers to dedicate public access shall include an interim deed restriction that restricts the property owner from interfering with the present use by the public of the areas subject to the easement prior to acceptance of the offer. Existing offers for dedication having such an interim deed restriction, shall remain open and unobstructed during the period when the offer is outstanding. Once a public agency or private association agrees to accept the responsibility for maintenance and liability of the access, the property owner's responsibility under the interim deed restriction may be relinquished.*	Consistent	Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, identification, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address compliance with the CCA and LCP requirements for coastal access. The permit conditions would require the Applicant to record an Offer to Dedicate a Diablo Lands Connector Trail. The Offer to Dedicate would require the Applicant to be responsible for trail management and operations of the entire trail system until/unless a management entity (i.e., public agency or private association) agrees to accept full responsibility for maintenance and liability associated with the Diablo Lands Connector Trail when, or following, completion of connector trail construction. Permit conditions would also require the Applicant to conduct a comprehensive environmental assessment to determine the trail route, and process a county entitlement application for the trail and supporting facilities followed by building permits for construction. The conditions would require that the Diablo Lands Connector Trail be completed and open to the public following termination of the Part 50 license, and prior to completion (permit signoff) of final DCPP site restoration or release of County bond. With implementation of the permit conditions, the Proposed Project is consistent with this policy.
Shoreline Access Policy 6 – Public Safety states: *The level of intensity of shoreline access is to be consistent with public safety concerns related to bluff stability, trail improvements as well as the provision of adequate facilities such as signs, fences and stairways.*	Consistent	Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR requiring the careful and detailed study, identification, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address compliance with the CCA and LCP requirements for coastal access. The permit conditions would require the Applicant to study, define, and record an Offer to Dedicate a new connecting public trail linking the area north of the DCPP site to the area to the south of

Table 4.12-3. San Luis Obispo County Local Coastal Program Consistency – Coastal Access for New Development

San Luis Obispo County Local Coastal Program Standards	Consistent?	Discussion
		the site. A design team would evaluate the Diablo lands and/or other property, if appropriate, and identify a route that best meets Coastal policy requirements and specified goals for the connecting trail. Goals include inclusion of lateral shoreline access and a trail designed for connectivity, feasibility, resource protection, and public safety. Signage, fencing and other means would be developed with the Trail Design Plan for County entitlement. Another permit condition would require a Trail Operations and Management Plan, which would address intensity of use and carrying capacity of the trail and support facilities, and would specify the supporting signs, fences, stairways, bridges, and other elements for public safety and resource protection. With implementation of the permit conditions, the Proposed Project is consistent with this policy.
Shoreline Access Policy 7 – Development of Uniform Access Signs states: *A uniform signing system program should be developed. Such signs would assist the public in locating and recognizing access points. Where agriculture and sensitive habitats are located, signs may be posted indicating the permitted level of access, the restrictions on access and a description of the sensitive habitat resource.* *Once accessways are accepted by a public agency, they shall be signed and posted to indicate any restrictions or presence of sensitive habitats or hazards.*	Consistent	Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, identification, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address compliance with the CCA and LCP requirements for coastal access. The permit conditions would require the Applicant to study, define, and record an Offer to Dedicate a new connecting public trail linking the area north of the DCPP site to the area south of the site. The permit conditions call for a Trail Design Plan (for entitlement) and a Trail Operations and Management Plan (with construction) incorporating the existing and proposed trails into comprehensive oversight, which would include discussion of access points and signage as part of the design and management. With implementation of the permit conditions, the Proposed Project is consistent with this policy.

Table 4.12-3. San Luis Obispo County Local Coastal Program Consistency – Coastal Access for New Development

San Luis Obispo County Local Coastal Program Standards	Consistent?	Discussion
Shoreline Access Policy 8 – Minimizing Conflicts with Adjacent Uses states: *Maximum access shall be provided in a manner which minimizes conflicts with adjacent uses. Where a proposed project would increase the burdens on access to the shoreline at the present time or in the future, additional access areas may be required to balance the impact of heavier use resulting from the construction of the proposed project.*	Consistent	The 750-acre DCPP site does not currently provide public shoreline access. Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, identification, development, construction, implementation, and management of a Diablo Lands Connector Trail, maximizing access to the area. The permit conditions would require the development of a comprehensive environmental assessment, which would study and ensure that the selected route would minimize conflicts with adjacent uses. With implementation of the permit conditions, the Proposed Project is consistent with this policy.
Shoreline Access Policy 10 – Protection of Property Rights and Privacy states, in part: *The acquisition of rights for access and view purposes and other uses by the public should be consistent with the protection of the property and use rights of property owners. Access routes should be selected and designed so as to minimize the public impact on private property.*	Consistent	Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, identification, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address compliance with the CCA and LCP requirements for coastal access as a result of new development and given that the public has been precluded from accessing the DCPP shoreline since construction of the plant began in 1968. In addition, in January 2003, following the September 11, 2001 terrorist attacks, the US Coast Guard established a security exclusion zone preventing access to coastal waters within 2,000 yards (1 nautical mile) of the DCPP, along an approximately 1.7-mile length of coastline. The permit conditions would require the Applicant to record an Offer to Dedicate for a new trail connecting the area north of the DCPP site to the area south of the site. The conditions would outline the process to locate, design, permit, and construct the new trail, which would be designed to protect existing agricultural uses, private property, public safety, and sensitive resources. The conditions would include detailed management requirements for the trail that would ensure public access would not adversely impact private property or sensitive resources. With these permit conditions applied, the Proposed Project is consistent with this policy.

Table 4.12-3. San Luis Obispo County Local Coastal Program Consistency – Coastal Access for New Development

San Luis Obispo County Local Coastal Program Standards	Consistent?	Discussion
Shoreline Access Policy 11 – Taking of Private Property states: *In meeting the foregoing policies for ensuring public access to the shoreline, careful consideration must be given to the requirements of Section 30010 which declares that no local governments may "... exercise their power to grant or deny a permit in a manner which would take or damage private property for public use, without the payment of just compensation..."*	Consistent	The public has been and would continue to be precluded from accessing the shoreline within and adjacent to the DCPP site since construction of the DCPP began in 1968, continuing for an additional 15 years through decommissioning (2024-2039). In addition, in January 2003, following the September 11, 2001 terrorist attacks, the US Coast Guard established a security exclusion zone preventing access to coastal waters within 2,000 yards (1 nautical mile) of the DCPP, along an approximately 1.7-mile length of coastline. Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, identification, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address compliance with the CCA and LCP requirements for coastal access for new development. The permit conditions would include the requirements to identify, study, permit, construct, operate and manage a Diablo Lands Connector Trail to address the coastal access impacts associated with the Project. With the permit conditions, the Proposed Project is consistent with this policy.
Recreation and Visitor-Serving Facilities Policy 2 – Priority for Visitor-Serving Facilities states: *Recreational development and commercial visitor-serving facilities shall have priority over non-coastal dependent use, but not over agriculture or coastal dependent industry in accordance with PRC 30222. All uses shall be consistent with protection of significant coastal resources. The Land Use Plan shall incorporate provisions for areas appropriate for visitor-serving facilities that are adequate for foreseeable demand. Visitor-serving commercial developments that involve construction of major facilities should generally be located within urban areas. Provisions for new facilities or expansion of existing facilities within rural areas shall be confined to selected points of attraction.*	Consistent	Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address compliance with the CCA and LCP requirements for coastal access for new development. The conditions would result in an Offer to Dedicate a public access trail through the Diablo Lands in a location based on intensive study, with entitlement, permitting, and construction conditioned to ensure sensitive resources are protected. With the permit conditions, the Proposed Project is consistent with this policy.

Table 4.12-3. San Luis Obispo County Local Coastal Program Consistency – Coastal Access for New Development

San Luis Obispo County Local Coastal Program Standards	Consistent?	Discussion
Recreation and Visitor-Serving Facilities Policy 4 – Visitor-Serving Uses in Agricultural Areas states: *Where visitor-serving facilities are proposed within areas designated as agriculture on the LUE, the findings specified in agriculture Policy 3 as implemented in the CZLUO in the Agriculture chapter shall be met.*	Consistent	The lands adjacent to the DCPP site are designated for agricultural use; however, the Proposed Project is not a visitor-serving facility and is consistent with this policy because it would not impact the existing agricultural uses along the existing recreational trails and adjacent Diablo Lands. Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address compliance with the CCA and LCP requirements for coastal access for new development. The Diablo Land Connector Trail would not be a visitor-serving facility. Nevertheless, the conditions would require the consideration of agricultural areas when developing the new Diablo Lands Connector Trail and require County approval prior to implementation and construction of the new public accessway.
Land Use Ordinance Section 23.04.420 states, in relevant part: *Development within the Coastal Zone between the first public road and the tidelands shall protect and/or provide coastal access as required by this section. The intent of these standards is to assure public rights of access to the coast are protected as guaranteed by the California Constitution. Coastal access standards are also established by this section to satisfy the intent of the California Coastal Act.*	Consistent	Due to safety and security regulations, the public currently does not have right of access to or along the ocean at/from the DCPP site. These access restrictions would continue throughout decommissioning. Limited coastal trail access along the shoreline has been provided by PG&E for public use in perpetuity north and south of the DCPP site. The existing Point Buchon Trail and Pecho Coast/Rattlesnake Canyon Trails, which were implemented pursuant to requirements of prior permit conditions and are outside of the Project site, would continue to remain open to the public during and after the Proposed Project. In addition, permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR, would require an Offer to Dedicate a Diablo Lands Connector Trail to connect the area north of the DCPP to the area south of the DCPP. Conditions would also require the identification, study, permitting, construction, and management of the Diablo Lands Connector Trail. With these permit conditions, the Proposed Project is consistent with this section.

Table 4.12-3. San Luis Obispo County Local Coastal Program Consistency – Coastal Access for New Development

San Luis Obispo County Local Coastal Program Standards	Consistent?	Discussion
Land Use Ordinance Section 23.04.420(c) states, in relevant part: *Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) Access would be inconsistent with public safety, military security needs or the protection of fragile coastal resources; or (2) The site already satisfies the provisions of subsection (d) of this section.*	Consistent	Due to safety and security regulations, the public currently does not have right of access to or along the ocean at/from the DCPP site. These access restrictions would continue throughout decommissioning. Limited coastal trail access along the shoreline has been provided by PG&E for public use in perpetuity north and south of the Project site, as required by prior CCC CDP conditions. The existing Point Buchon Trail and Pecho Coast/ Rattlesnake Canyon trails are outside of the Project site and would continue to remain open to the public during and after the Project. Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR, to require the careful and detailed study, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address compliance with the CCA and LCP requirements for coastal access for new development. Permit conditions would require an Offer to Dedicate a Diablo Lands Connector Trail to connect the area north of the DCPP site to the area south of the site. Conditions would also require the development of the Diablo Lands Connector Trail route, avoiding the post-decommissioning revised Owner Controlled Area, and the preparation of a comprehensive environmental assessment to ensure the route protects fragile coastal resources. With these permit conditions, the Proposed Project is consistent with this section.
Land Use Ordinance Section 23.04.420(d) states, in relevant part: *(1)(ii): In rural areas where no dedicated or public access exists within one mile, or if the site has more than one mile of coastal frontage, an accessway shall be provided for each mile of frontage; (iii) An accessway shall be provided on any site where prescriptive rights of public access have been determined by a court to exist;* *(iv): The applicable approval body may require accessways in addition to those required by this section where the approval body finds that a proposed development would, at the time of*	Consistent	The shoreline along the 750-acre DCPP site has been excluded from public access since construction of the DCPP began. This exclusion would continue during implementation of the proposed Project. Prior CCC CDPs provided limited coastal access to the south and north of the site. However, these trails both end more than one mile from the Project site. In addition, the DCPP site includes more than one mile of coastal frontage. Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address compliance with

Table 4.12-3. San Luis Obispo County Local Coastal Program Consistency – Coastal Access for New Development

San Luis Obispo County Local Coastal Program Standards	Consistent?	Discussion
approval or at a future date, increase pedestrian use of any adjacent accessway beyond its capacity. *(2) Accessways shall be a minimum width of five feet in urban areas and ten feet in rural areas.* *(3) All new development shall provide a lateral access dedication of twenty-five feet of dry sandy beach available at all times during the year. Where topography limits the dry sandy beach to less than twenty-five feet, lateral access shall extend from the mean high tide to the toe of the bluff.*		the CCA and LCP requirements for coastal access for new development. The permit conditions would require an Offer to Dedicate a Diablo Lands Connector Trail to connect the area north of the DCPP site to the area south of the site. Other conditions would require development of the Diablo Lands Connector Trail route and development of a Trail Design Plan that would ensure the trail would be consistent with applicable County policies and plans, and would address vertical access, if appropriate. With these permit conditions, the Proposed Project is consistent with this section.
Land Use Ordinance Section 23.04.420(e) states: *The type and extent of access to be dedicated, and/or constructed and maintained, as well as the method by which its continuing availability for public use is to be guaranteed, shall be established at the time of land use permit approval, as provided by this section.* *(1) Dedication: Shall occur before issuance of construction permits or the start of any construction activity not requiring a permit;* *(2) Construction of improvements: Shall occur at the same time as construction of the approved development, unless another time is established through conditions of land use permit approval;* *(3) Opening access for public use: No new coastal access required by this section shall be opened or otherwise made available for public use until a public agency or private association approved by the county agrees to accept responsibility for maintenance of the accessway and any liability resulting from public use of the accessway;* *(4) Interference with public use prohibited: Following an offer to dedicate public access pursuant to subsection (e)(1) of this section, the property owner shall not interfere with use by the public of the areas subject to the offer before acceptance by the responsible entity.*	Consistent	Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address compliance with the CCA and LCP requirements for coastal access for new development. The permit conditions would require the Applicant to record an Offer to Dedicate a Diablo Lands Connector Trail to connect the area north of the DCPP site to the area south of the site, prior to the submittal of any decommissioning related demolition, grading, building, or other construction related permits. Permit conditions would also require development of the Diablo Lands Connector Trail route and the creation and implementation of a Trail Operations and Management Plan to ensure the trail is operated and maintained appropriately. Permit conditions would require the study and identification of a trail route, and the permitting and development of plans associated with the identification, construction, and management of the trail. Lastly, a permit condition would require the Applicant to submit building permits for trail construction within 180 days following the termination of the DCPP's Part 50 license by the NRC. With these permit conditions, the Proposed Project is consistent with this section.

Table 4.12-3. San Luis Obispo County Local Coastal Program Consistency – Coastal Access for New Development

San Luis Obispo County Local Coastal Program Standards	Consistent?	Discussion
Land Use Ordinance Section 23.04.420(g.) states: *Where public coastal accessways are required by this section, approval of a land division, or land use permit for new development shall require guarantee of such access through deed restriction, or dedication of right-of-way or easement. Before approval of a land use permit or land division, the method and form of such access guarantee shall be approved by County Counsel, and shall be recorded in the office of the County Recorder, identifying the precise location and area to be set aside for public access. The recorded document shall include the mapped location of the access area prepared by a licensed professional, as well as legal descriptions of the access area and the affected properties. Criteria. The method of access guarantee shall be chosen according to the following criteria: (1) Deed restriction: Shall be used only where an owner, association or corporation agrees to assume responsibility for maintenance of and liability for the public access area, subject to approval by the Planning Director; (2) Grant of fee interest or easement: Shall be used when a public agency, private organization, or individual is willing to assume ownership, maintenance and liability for the access; (3) Offer of dedication: Shall be used when no public agency, private organization or individual is willing to accept fee interest or easement for accessway maintenance and liability. Such offers shall not be accepted until maintenance responsibility and liability is established.*	Consistent	The Proposed Project would occur between the coastline and the nearest public road and constitute new development, thereby requiring coastal access consistent with the County LCP. Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, development, construction, implementation, and management of a Diablo Lands Connector Trail. The permit conditions would address compliance with the CCA and LCP requirements for coastal access. The permit conditions would require the Applicant to record an Offer to Dedicate a public access easement prior to the application submittal for any County demolition, grading, building, or any other construction permit associated with DCPP decommissioning. The permit conditions would also require the study and identification of a trail route and the permitting and development of plans associated with the identification, construction, and management of the trail. Lastly, a permit condition would require the Applicant to submit building permits for trail construction within 180 days following the termination of the DCPP's Part 50 license by the NRC. It would also require completion of a Final Trail Operations and Management Plan to ensure the trail is appropriately operated and maintained. With these permit conditions, the Proposed Project is consistent with this section.

Table 4.12-3. San Luis Obispo County Local Coastal Program Consistency – Coastal Access for New Development

San Luis Obispo County Local Coastal Program Standards	Consistent?	Discussion
LCP Section 23.04.420(h) states: *Coastal accessways required by this section or by planning area standards of the Land Use Element shall be physically improved as provided by this subsection. The need for improvements to any accessway shall be considered as part of land use permit approval, and responsibility for constructing the improvement shall be borne by the developer or consenting public agency. After construction, maintenance and repair may be accomplished by a public agency or by a private entity approved by the applicable review body taking action on the project land use permit. (1) Typical improvements that may be required. The extent and type of improvements and support facilities that may be required may include but are not limited to drainage and erosion control measures, planting, surfacing, structures such as steps, stairways, handrails, barriers, fences or walls, benches, tables, lighting, parking spaces for the disabled, safety vehicles or general public use, as well as structures such as restrooms or overlooks. (2) Type and extent of improvements - required findings. The improvements described in subsection (h)(1) of this section shall be required to an extent where such improvements: (i) Are necessary to either assure reasonable public access, protect the health and safety of access users, assure and provide for proper long-term maintenance of the accessway, or protect the privacy of adjacent residents; (2) Are adequate to accommodate the expected level and intensity of public use that may occur; (3) Can be properly maintained by the approved maintenance entity; (4) Incorporate adequate measures to protect the privacy and property rights of adjoining property owners and residents.*	Consistent	Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address compliance with the CCA and LCP requirements for coastal access for new development. The permit conditions would require the Applicant to record an Offer to Dedicate for the new access prior to application submittal for any County demolition, grading, building, or any other construction permit associated with decommissioning. The conditions would also require the development of a Trail Design Plan, which must identify the improvement necessary for completion of the trail. In addition, the permit conditions would require that a land use permit application be submitted for development of the trail. Lastly, the permit conditions would require that a Final Trail Operations and Management Plan be prepared addressing the long-term operation and maintenance of the trail. With these permit conditions, the Proposed Project is consistent with this section.

Table 4.12-3. San Luis Obispo County Local Coastal Program Consistency – Coastal Access for New Development

San Luis Obispo County Local Coastal Program Standards	Consistent?	Discussion
LCP Section 23.04.420(k) states: *In reviewing a proposed accessway, the applicable review body shall consider the effects that a public accessway may have on adjoining land uses in the location and design of the accessway. When new development is proposed, it shall be located so as not to restrict access or to create possible privacy problems. Where feasible, the following general criteria shall be used in reviewing new access locations, or the location of new development where coastal access considerations are involved: (1) Accessway locations and routes should avoid agricultural areas, sensitive habitats and existing or proposed residential areas by locating near the edge of project sites; (2) The size and location of vertical accessways should be based upon the level and intensity of existing and proposed access; (3) Review of the accessway shall consider: safety hazards, adequate parking provisions, privacy needs of adjacent residences, adequate signing, and levels of improvements necessary to provide for access; (4) Limiting access to pass and repass should be considered where there are nearby residences, where topographic constraints make the use of the beach dangerous, where there are habitat values that can be disturbed by active use.*	Consistent	Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address compliance with the CCA and LCP requirements for coastal access for new development. There are currently agricultural uses on both the north and south portions of the Diablo Lands. The permit conditions would require the Applicant to develop a route for a new Diablo Lands Connector Trail after the preparation of a comprehensive environmental assessment. The route would be required to ensure that any access to and use of any associated beaches is safe for the public while still protecting existing habitats. It also acknowledges that vertical access to beaches may not be appropriate given the sensitivity of the Diablo Lands shoreline. The permit conditions would also require the Applicant to develop and implement a Final Trail Operations and Management Plan to ensure the trail is maintained, and operated in a manner that protects public safety, existing agricultural usage, and nearby sensitive ecological, biological, and cultural resources. With these permit conditions, the Proposed Project is consistent with this section.
LCP Section 23.07.178(c) states, in relevant part: *Coastal access shall be monitored and regulated to minimize impacts on marine resources. If negative impacts are demonstrated, then the appropriate agency shall take steps to mitigate these impacts, including limitations of the use of the coastal access.*	Consistent	Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions are recommended to address compliance with the CCA and LCP requirements for coastal access for new development. The conditions would require the Applicant to record an Offer to Dedicate a public access easement linking the area north of the DCPP site to the area south of the site. The conditions would also require the Applicant to prepare a comprehensive environmental assessment to determine

Table 4.12-3. San Luis Obispo County Local Coastal Program Consistency – Coastal Access for New Development

San Luis Obispo County Local Coastal Program Standards	Consistent?	Discussion
		a route that would be protective of marine resources among other sensitive resources. In addition, the permit conditions would require the Applicant to develop and implement a Final Trail Operations and Management Plan to ensure the trail is maintained and nearby sensitive resources, including marine resources, are protected and that measures are taken to avoid or reduce any negative impacts. With these permit conditions, the Proposed Project is consistent with this policy.

Source: San Luis Obispo, 2007; 2019.

Table 4.12-4. San Luis Obispo County General Plan Consistency – Coastal Access for New Development, Recreation Element

Recreation Policies	Consistent?	Discussion
Policy 3.8 states: *To protect the interests of adjacent land uses (both public and private) and the environment, trail projects shall:* *1. Be consistent with the standards in the General Plan including the County's Agriculture and Open Space Element.* *2. Stay as far away as reasonable from production agriculture, commercial activities and residences.* *3. Be built to minimize impacts to sensitive resources.* *4. Provide signs that identify permitted trail uses; directions to relevant public areas; and, provide for safety and protection of trail users and adjacent private property.* *5. Provide trail fencing where necessary to discourage trespass onto neighboring land and to protect sensitive resources.* *6. Impose enforceable limitations on the trail use, as appropriate.* *Be designed and constructed consistent with the trails standards contained in Appendix B of this document.*	Consistent	Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address compliance with the CCA and LCP requirements for coastal access for new development. The permit conditions would require the Applicant to develop a route for a Diablo Lands Connector Trail linking the area north of the DCPP site to the area south of the site. The conditions also would require that a comprehensive environmental assessment be prepared to ensure sensitive environmental resources are protected. In addition, the conditions require that a Trail Design Plan be prepared documenting consistency with County plans and policies. The design plan must also identify trail improvements such as signage and fencing. Lastly, the carrying capacity for the trail would be determined as part of the trail studies. With the implementation of the permit conditions, the Proposed Project is consistent with this policy.

Table 4.12-4. San Luis Obispo County General Plan Consistency – Coastal Access for New Development, Recreation Element

Recreation Policies	Consistent?	Discussion
Policy 3.10 states: *Extensive trail systems, such as the California Coastal Trail, the Juan Bautista de Anza and the Salinas River Trails, will generally be developed in a series of shorter, but viable, segments. Such segments shall not be constructed until a viable link can be established connecting residential communities, parks, staging areas, or other public points of interest.*	Consistent	Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR to require the careful and detailed study, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address compliance with the CCA and LCP requirements for coastal access for new development. The permit conditions would require the Applicant to develop a route for a Diablo Lands Connector Trail linking the area north of the DCPP site to the area south of the site. With implementation of the permit conditions, the Proposed Project is consistent with this policy.
Policy 3.13 states: *When a trail dedication is required as a condition of a discretionary permit, the required trail dedication must:* *1. Be proportional to the level of development being proposed;* *2. Have an appropriate nexus to the effects of the permit; …* *4. Result in no long term, unmitigable environmental impacts; and* *5. Comply with all applicable local, state and federal laws and regulations.*	Consistent	The public has been and would continue to be precluded from accessing the shoreline within and adjacent to the DCPP site since construction of the DCPP began in 1968, continuing for an additional 15 years through decommissioning (2024 – 2039). In addition, in January 2003, following the September 11, 2001 terrorist attacks, the US Coast Guard established a security exclusion zone preventing access to coastal waters within 2,000 yards (1 nautical mile) of the DCPP, along an approximately 1.7-mile length of coastline. Permit conditions would be presented to the County Planning Commission for Project consideration along with certification of the Final EIR and would be recommended by staff to require the careful and detailed study, development, construction, implementation, and management of a Diablo Lands Connector Trail. These permit conditions would address compliance with the CCA and LCP requirements for coastal access for new development. The permit conditions would require that a comprehensive environmental assessment be prepared to help determine the trail route. In addition, a separate land use permit would be required for development of the trail, thus further ensuring that any impacts associated with trail development would be mitigated in compliance with applicable local, state, and federal laws and regulations. With the permit conditions, the Proposed Project is consistent with this policy.

Source: San Luis Obispo, 2006.

4.12.3 Significance Criteria

The significance criterion used to evaluate the Proposed Project's impacts to Land Use, Planning, and Agriculture are based on Appendix G of the State CEQA Guidelines. A significant impact would occur if the Proposed Project would contribute to:

- Disruption or displacement of existing land uses (e.g., agricultural, residential, commercial).
- Conflict with any applicable land use policy or regulation of any agency with jurisdiction over the Project (including the LCP) related to coastal access.

4.12.4 Environmental Impact Analysis and Mitigation

Impact LUP-1: Disrupt or displace an existing land use (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

Phase 1 activities would not disrupt or displace an existing land use within the DCPP site. The Proposed Project is designed to decontaminate, dismantle, and remove electrical generating equipment and supporting infrastructure, and to shift part of the DCPP site into an operational ISFSI and GTCC Waste Storage Facility. There are no land uses within the existing OCA surrounding the DCPP that would be disrupted or displaced by decommissioning activities.

The transport activities (e.g., decommissioning equipment and waste) to and from the DCPP site would utilize public roads that serve as the only access routes to particular land uses. Transport activities would involve oversize loads and the use of specialty heavy-haul transport vehicles which could temporarily limit public access along the proposed routes. Transportation access issues are discussed in Section 4.16, *Transportation.* Mitigation Measure (MM) TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*) requires the Applicant to implement a Traffic Management Plan (TMP) that would include requirements restricting when road and lane closures may occur and would provide a point of contact for local residents to communicate any Project-related issues or concerns during decommissioning.

Land uses that would be affected by temporary access restrictions include the commercial and recreational uses located along Avila Beach Drive (i.e., RV campgrounds, hotels, commercial uses at Port San Luis Pier), as well as the residential and commercial development within the central Avila Beach community (see Table 4.12-1 and Figures 4.12-1 and 4.12-2). Lane and/or road closures could create access restrictions that would disrupt normal activities at the land uses located along the transport routes. Depending on the duration and intensity of these transport activities, the land use disruptions could be significant but mitigable (Class II) with the application of the mitigation measures presented in Section 4.16, *Transportation*. These mitigation measures include MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and EM-2 (*Project Plan, Updating, Tracking, and Reporting*, specifically for

the TMP required under MM TRA-2). Refer to Section 4.16, *Transportation*, for a full discussion of the ways in which Proposed Project construction-related traffic would be managed to avoid or substantially reduce effects on land uses along transport routes.

Railyards

Pismo Beach Railyard. Phase 1 activities would not disrupt or displace current operations within the PBR site. The site is an operational PG&E-owned storage facility and railyard, and waste transport would not create a conflict with the site's existing use. Transport activities to the PBR site would utilize Price Canyon Road and Bello Street, which are primary access routes for adjacent residences (see Table 4.12-1 and Figure 4.12-3). An increase in haul truck activity during peak traffic hours for the adjacent residences and other sensitive land uses (e.g., Judkins Middle School) could disrupt normal activities for these land uses located along the transport routes. Depending on the duration and intensity of transport activities, the land use disruptions would be significant but mitigable (Class II) with the application of MM TRA-1 (*Truck Transportation Outside of Peak Hours*) presented in Section 4.16, *Transportation*, which requires the preparation and implementation of a plan specifying hours for truck traffic outside of peak hours.

SMVR-SB. Phase 1 activities would not disrupt or displace current operations within the SMVR-SB site. The site is an operational transload and rail facility, and waste transport would not create a conflict with the site's existing use. The use of modular transporters or other oversize vehicles could temporarily limit public access along Betteravia Road. Table 4.12-1 and Figure 4.12-4 identify the land uses that are located along this route, which include residences, commercial uses, schools, and a police department. Depending on the duration and intensity of these transport activities, the land use disruptions could be significant but mitigable (Class II) with the application of the mitigation measures presented in Section 4.16, *Transportation*. These mitigation measures include MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and EM-2 (*Project Plan, Updating, Tracking, and Reporting,* specifically for the TMP required under MM TRA-2). Refer to Section 4.16, *Transportation*, for a full discussion of the ways in which Proposed Project construction-related traffic would be managed to avoid or substantially reduce effects on land uses along transport routes.

Phase 2

Phase 2 activities include remediation, final site restoration, and the continuation of Discharge Structure removal and restoration, which would require equipment for the demolition of remaining utilities and structures, soil grading, and landscaping. Up to 1,760 dump-trailer truckloads would import topsoil to the Project Site during Phase 2. Depending on the duration and intensity of these transport activities, the land use disruptions would be significant but mitigable (Class II) with the application of the mitigation measures presented in Section 4.16, *Transportation*. These mitigation measures include MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly*

Decommissioning Updates), and EM-2 (*Project Plan, Updating, Tracking, and Reporting,* specifically for the TMP required under MM TRA-2). Refer to Section 4.16, *Transportation*, for a full discussion of the ways in which Proposed Project construction-related traffic would be managed to avoid or substantially reduce effects on land uses along transport routes.

As there would be no Phase 2 activities at the railyards, no impact would occur at those sites.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. These activities would not disrupt or displace an established land use outside of the DCPP site. Furthermore, the use of public roadways to access these activities would not interfere or temporarily limit public access within the adjacent communities. There would be no impact to adjacent land uses during post-decommissioning operational activities within the DCPP site.

Future Actions. Marina operations would not disrupt or displace an established land use outside of the DCPP site, nor would it temporarily limit public access within adjacent communities. There would be no impact to adjacent land uses during future marina use.

Mitigation Measures for Impact LUP-1. See Section 4.16 for full text of measures.

EM-2 **Project Plan, Updating, Tracking, and Reporting.** See Section 3. For Impact LUP-1, MM EM-2 will be implemented to track the compliance activities and reporting of the TMP required under MM TRA-2.

TRA-1 **Truck Transportation Outside of Peak Hours**

TRA-2 **Specialty Heavy-Haul Transport Vehicle Transportation Management Plan**

TRA-3 **Decommissioning Liaison**

TRA-4 **Advance Notification of Decommissioning**

TRA-5 **Quarterly Decommissioning Updates**

Impact LUP-2: Disrupt or convert surrounding agricultural uses (No Impact).

Phase 1

DCPP Project Site

Phase 1 activities would occur entirely within the 750-acre DCPP site, which is designated and zoned by the County as Public Facilities. No decommissioning activities would extend into adjacent agricultural lands within the existing OCA. Transport activities from the DCPP site along Diablo Canyon Road and Avila Beach Drive would utilize the existing road network and would not disrupt grazing activities or otherwise impact agricultural lands along the roadways. The Proposed Project would not disrupt or convert surrounding agricultural uses. No impact to agricultural uses would occur.

Railyards

Pismo Beach Railyard. Waste transport activities would utilize existing roads and would not extend outside of the current boundaries of the PBR site. The Proposed Project would not require an expansion of the PBR property. No activities would occur on agricultural lands to the north and east of the PBR site. The Proposed Project would not disrupt or convert surrounding agricultural uses, and no impact would occur.

SMVR-SB. Waste transport activities would utilize existing roads and would not extend outside of the current boundaries of the SMVR-SB site. The Proposed Project would not require an expansion of the SMVR-SB property, and no activities would occur on adjacent agricultural lands. The Proposed Project would not disrupt or convert surrounding agricultural uses, and no impact would occur.

Phase 2

Phase 2 activities would include final site restoration and remediation and the continuation of Discharge Structure removal and restoration activities within the 750-acre DCPP site. No restoration activities would extend outside of this 750-acre site in a manner that could disrupt or convert adjacent agricultural lands. No impact to agricultural uses would occur during Phase 2. As there would be no Phase 2 activities at the railyards, no impact would occur at those sites.

Post-Decommissioning Operations

New Facility Operations. Post-decommissioning activities (i.e., operation of the GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings) would occur within the DCPP site and would not extend into adjacent agricultural lands within the existing OCA. Access to the DCPP site along Diablo Canyon Road and Avila Beach Drive would utilize the existing road network and would not disrupt grazing activities or otherwise impact agricultural lands along the roadways. New facility operations following Phase 2 would not disrupt or convert surrounding agricultural uses. No impact to agricultural uses would occur.

Future Actions. Marina operations would not extend into adjacent agricultural lands within the existing OCA. There would be no impact to agriculture during future marina use.

Mitigation Measures for Impact LUP-2. No mitigation measures are required.

Impact LUP-3: Conflict with any applicable land use policy or regulation of an agency with jurisdiction over the project (including the local coastal program) related to coastal access (Class III: Less than Significant).

Phase 1

DCPP Project Site

The DCPP Project site is located within a pristine portion of the California coastline that was home to Native American Tribes for centuries before it was legally transferred to Miguel Avila via a land patent, which basically erased any prior "ownership" of the land. The transfer was part of a more than 14,000-acre land patent that was recorded in 1887 (Willey, 1886). Between that initial land

patent and the start of construction of the DCPP, the coastal property was used as ranch land, and had limited public access routes, other than fire roads and private trails used to access private homes (Muatz, 1965). Most recently, the property was owned by the Marre family, which initially leased the property to PG&E and Eureka for construction and operation of the DCPP under a 99-year lease. After construction on Unit 1 began in 1968, PG&E and Eureka started procuring acres surrounding and including the DCPP site. PG&E and Eureka now own or control approximately 12,000 acres in and around the DCPP, with about 4,000 acres of those lands within the coastal zone (CCC, 2004). These coastal zone acres cover about 14 miles of coastline.

PG&E constructed new amenities to support the development and operation of DCPP. Prior to the development of Diablo Canyon Road, there were few ways for on-road vehicles to easily access the DCPP site or Port San Luis. More than 7,000 workers were needed to construct the two reactor units and the necessary support buildings for the plant, so the road and parking infrastructure was scaled to support their commutes.

During construction, and since Unit 1 began operating in 1984, public access at the DCPP site in the coastal zone has been limited, not due to ownership and private property rights, but to meet federal security and safety requirements. However, several recreational resources are available in the vicinity, including pedestrian hiking and equestrian opportunities, camping in Montaña de Oro State Park, and largely blufftop pedestrian hiking trails located north and south of the DCPP site that were previously required and permitted by the CCC and require public access in perpetuity. As discussed in more detail below, no recreational access exists along the shoreline, within, or through the 750-acre DCPP Project site or within the 2,000-yard (one nautical mile) security exclusion zone established off the coast of the power plant (see Figure 2-6).

Consistency with Coastal Act Policies and Local Coastal Plan Provisions

As stated in the San Luis Obispo County LCP Policies, which were approved by the CCC, the right of public access to all coastal tidelands is guaranteed by the CCA (Section 30210), which has been upheld by court decisions. The CCA contains policies that require existing legal rights of public access to the coast to be protected, and reasonable requirements for public access to be established in new developments along the coast (San Luis Obispo, 2007).

Chapter 3 of the CCA includes public access and public recreation policies with which any development in the coastal zone must be in conformity. To implement the provisions of the CCA, the County developed coastal access policies contained in its Coastal Plan Policies document, which represent the commitment of the County to preserving, protecting, and providing access to the coast. The policies are then implemented through Title 23, the County's Coastal Zone Land Use Ordinance (CZLUO) provisions pertaining to coastal access. These documents along with several others comprise the County's LCP.

Table 4.12-3 identifies each of the applicable CCA and LCP sections pertaining to coastal access and the Proposed Project's compliance with these sections. For this analysis, some of the sections are repeated below to further discuss the Proposed Project's compliance with them.

CCA Sections 30210 – 30214 pertain to the requirements for coastal access for development projects. Section 30210 requires that maximum public access opportunities "be provided for all the people consistent with public safety needs and the need to protect public rights, rights of

private property owners, and natural resource areas from overuse." The section also cites Section 4 of Article X of the California Constitution, which provides the public's constitutional right of access. This section states in relevant part:

> *No individual, partnership, or corporation, claiming or possessing the frontage or tidal lands of a harbor, bay, inlet, estuary, or other navigable water in this State, shall be permitted to exclude the right of way to such water whenever it is required for any public purpose, nor to destroy or obstruct the free navigation of such water.*

Section 30211 further documents the public's right to access to the sea including the use of dry sand and rocky coastal beaches to the first line of vegetation. This provision is also included in CZLUO Section 23.04.420(b).

CCA Section 30211 and CZLUO Section 23.04.420(b) state:

> *Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

CCA Section 30212 and CZLUO Section 23.04.420(c) identify when a new development project is required to provide access. The CCA Section 30601 and CZLUO Title 23 Chapter 23.11 have the same definition of development.[39]

CCA Section 30212 and CZLUO Section 23.04.420 (c) state in relevant part:

> *Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or, (3) agriculture would be adversely affected.*

The County's LCP also contains coastal access policies and requirements for new development based on the CCA policies. For instance, CZLUO Section 23.04.420 states:

> *Development within the Coastal Zone between the first public road and the tide-lands shall protect and/or provide coastal access as required by this section. The*

[39] Under LCP Title 23 Chapter 23.11 and California Coastal Act Section 30601, "Development" is defined as follows: "Development" means, on land, in or under water, the placement or erection of any solid material or structure; discharge or disposal of any dredged material or of any gaseous, liquid, solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land, including, but not limited to, subdivision pursuant to the Subdivision Map Act (commencing with Section 66410 of the Government Code), and any other division of land, including lot splits, except where the land division is brought about in connection with the purchase of such land by a public agency for public recreational use; change in the intensity of use of water, or of access thereto; construction, reconstruction, demolition, or alteration of the size of any structure, including any facility of any private, public, or municipal utility; and the removal or harvesting of major vegetation other than for agricultural purposes, kelp harvesting, and timber operations which are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z'berg-Nejedly Forest Practice Act of 1973 (commencing with Section 4511). As used in this section, "structure" includes, but is not limited to, any building, road, pipe, flume, conduit, siphon, aqueduct, telephone line, and electrical power transmission and distribution line.

> *intent of these standards is to assure public rights of access to the coast are protected as guaranteed by the California Constitution. Coastal access standards are also established by this section to satisfy the intent of the California Coastal Act.*

As with the CCA, this section cites the public's constitutional right of access to the coast.

CZLUO Section 23.04.420(d)(ii) specifies the type of access required for new development projects in rural areas. It states:

> *In rural areas where no dedicated or public access exists within one mile, or if the site has more than one mile of coastal frontage, an accessway shall be provided for each mile of frontage.*

Lastly, CCA Section 30604 (c) requires, for a CDP issued for any development between the nearest public road and the sea or the shoreline of any body of water located within the coastal zone, that a specific finding must be made that the development is in conformity with the public access and public recreation policies of Chapter 3 of the CCA.

The DCPP site is within the nearest public road and the sea. However, neither the CCA nor the County's LCP were in effect at the time construction of the DCPP began in 1968. Otherwise, coastal access would have been required at that time, especially since the security zone encompassing the 750-acre site boundary precludes the public its right to access the shoreline as provided under the California Constitution. In addition, in January 2003, following the September 11, 2001 terrorist attacks, the US Coast Guard and US Department of Transportation established a security exclusion zone preventing access to coastal waters within 2,000 yards (1 nautical mile) of the DCPP (USCG and USDOT, 2002). These access restrictions to and along the shoreline would continue to be precluded for another 15 years (2024 – 2039), as part of the Proposed Project.

As stated in Recreation and Public Access Section 4.15.1.2, limited coastal access has been required in previous DCPP development projects within the approximately 12,000 acres owned by PG&E and Eureka Energy Company (Eureka) that surround the DCPP (hereinafter referred to as the "Diablo Lands"). The access includes the Pecho Coast Trail that was required as a result of the Simulator Training Building project (CCC CDP A-4-82-593). The Point Buchon Trail was required to mitigate the impacts of the ISFSI project (CCC CDP A-3-SLO-04-035). In addition, access enhancements to the Pecho Coast Trail were required by the Steam Generator Replacement Project (CCC CDP E-06-011/A-3-SLO-06-017). Due to the security zone surrounding the DCPP, these coastal access trails are not in close proximity to the NRC-defined 750-acre DCPP security boundary. The end of the Pecho Coast Trail at Rattlesnake Canyon is approximately 3.6 miles from the southern DCPP 750-acre site boundary and the southern end of the Point Buchon Trail is approximately 1.1 miles from the northern DCPP site boundary. Once the NRC terminates the Part 50 operating licenses for the reactors, the restrictions on public access would be lessened, except there would still be protection necessary for the revised owner-controlled area (OCA).

As specified in CCA Section 30212 and CZLUO Section 23.04.420(c), public access might not be required if it is: "1) inconsistent with public safety, military security needs, or the protection of fragile coastal resources; 2) adequate access exists nearby; or 3) agriculture would be adversely affected." Below is a discussion regarding why these exemptions do not apply to the Proposed Project.

With regard to public safety, access within and adjacent to the shoreline and coastal waters has been precluded due to NRC and US Coast Guard/US Department of Transportation security requirements. However, these requirements would be modified, or in some instances, eliminated, after decommissioning. Before the NRC terminates PG&E's Part 50 operating licenses, a new or amended license for the ISFSI and GTCC waste storage facility would be issued with a substantially smaller security boundary compared to the existing NRC boundary (see Figure 2-17). The US Coast Guard/US Department of Transportation can eliminate the existing 2,000-yard security buffer that restricts offshore access once the SNF is transferred to the ISFSI (PG&E, 2023).

The Diablo Lands and areas along the shoreline of the DCPP site contain sensitive, fragile coastal resources. The Diablo Lands shoreline is unspoiled and has been protected for many years. However, as shown by the Pecho Coast/Rattlesnake Canyon and Point Buchon trails, access is possible if it is managed, sited after careful study, and establishes a maximum threshold of visitors that can be accommodated (i.e., carrying capacity). Before any trail route could be identified on the Diablo Lands, a comprehensive, detailed study of the area would be required, in consultation with affiliated Tribes, to ensure that the trail is sited in a manner that would protect sensitive resources. This could include siting the trail farther inland, away from the shoreline. It could also preclude vertical access to beaches. The carrying capacity could then be determined based on the route selected.

Adequate public access is not located nearby. Limited access is provided by the Pecho Coast/ Rattlesnake Canyon and Point Buchon trails; however, the Rattlesnake Canyon Trail ends approximately 3.6 miles from the current DCPP southern security boundary and the Point Buchon Trail ends approximately 1.1 miles from the DCPP northern security boundary. With these trails, access is provided on approximately 7.3 miles of the approximately 15-mile shoreline of the Diablo Lands.[40] However, the NRC and US Coast Guard/US Department of Transportation security requirements for the site have precluded access to nearly all of the remaining 7.9 miles of shoreline, and approximately 1 nautical mile (2,000 yards) of the coastal waters offshore (see Table 4.15-5).[41]

Cattle grazing currently occurs along the existing Pecho Coast/Rattlesnake Canyon and Point Buchon Trails, and throughout Diablo Canyon Lands, demonstrating that siting trails through existing grazing land would not adversely affect agricultural use.

Lastly, CZLUO Section 23.04.420(d)(ii) states that access must be provided "where no dedicated public access exists within one mile, or if the site has more than one mile of coastal frontage…" Both provisions apply to the Project. As shown in Table 4.12-5, the inaccessible shoreline south of Point Buchon Trail, and north of Rattlesnake Canyon Trail, plus the approximately 3.2 miles of DCPP coastal frontage within the NRC boundary, totals approximately 7.9 miles. The Pecho Coast/Rattlesnake Canyon Trail northern extension terminates approximately 3.6 miles from the 750-acre DCPP site boundary. The southern end of the Point Buchon Trail is approximately 1.1

[40] The Pecho Coast Trail is approximately 1.9 miles (3.75 miles roundtrip) to the Point San Luis Lighthouse and approximately 4 miles one-way (8 miles roundtrip) to Rattlesnake Canyon. The Rattlesnake Canyon trail includes the hike to the Point San Luis Lighthouse. The Point Buchon Trail is approximately 3.3 miles one-way (6.6 miles roundtrip).

[41] Measurements are based on satellite imagery generally following the coastline.

miles from the 750-acre DCPP site boundary. In addition, the 750-acre DCPP site has approximately 3.2 miles of coastal frontage, and approximately 1 nautical mile of coastal waters offshore, which are all currently inaccessible to the public.

Table 4.12-5. Diablo Lands Coastal Access and Exclusion Areas Summary:
Segments of coastline from North (Montana de Oro) to South (Port San Luis/Avila Beach) in miles[1]

	PUBLIC ACCESS	EXCLUSION	EXCLUSION	EXCLUSION	PUBLIC ACCESS
	Point Buchon Trail, from north (MDO) property line to southern-most point of trail	Coastline from Pt. Buchon Trail at southern end, south to NRC Boundary (north limit)	Coastline between 750-acre NRC Boundaries, north to south	Coastline from southern NRC Boundary south to northernmost Rattlesnake Canyon Trail	Coastline from Rattlesnake Canyon Trail south to Pecho Coast Trailhead (at Port San Luis/Avila)
Public Access:	3.3 miles				4.0 miles
No Access:		1.1 miles	3.2 miles	3.6 miles	
Estimated Length of DCPP Coastline with Existing Coastal Public Access:[2]					**7.3**
Estimated Length of DCPP Coastline Without Access (Public Excluded):[2]					**7.9**
Estimated Total DCPP (PG&E & EUREKA ENERGY) Property Coastline:[2]					**15.2**
Coast Guard Exclusion Zone – Coastal Shoreline Length (land miles):[3]					**4.3**

[1] Measurements are approximate and based on satellite imagery, generally following the coastline.
[2] Coastline distances were conservatively measured using Geographic Information Systems (GIS) mapping. Other sources referenced for coastline length included County APN maps (16.2 miles), San Luis Obispo County Boundary in GIS (17.5 miles) and the National Oceanic and Atmospheric Administration's (NOAA) Mean High Tide Line (18.7 miles).
[3] The US Coast Guard 2,000-yard exclusion zone extends north and south of the NRC Boundary (4.3 miles vs. 3.2 miles, respectively) and also extends offshore 1 nautical mile (~6,000 feet). See Figure 2-6.

The lack of access to and along the shoreline of the DCPP site is an existing condition and public access restrictions would continue until the NRC Part 50 operating license is terminated and the US Coast Guard/US Department of Transportation remove the security boundary offshore of the Project site. Nevertheless, the proposed Project constitutes new development under the CCA and LCP. The proposed Project includes the demolition of multiple buildings and structures; the placement of structures on land and in water to facilitate structure removal; the grading of the majority of the Project site; and the construction of new facilities in the revised OCA. Given this and given the history of prior Coastal Development Permits associated with the site which likewise required coastal access, in order for the Project to be consistent with the CCA, applicable LCP policies, and the CZLUO, the associated requirement(s) for coastal access must be addressed.

As part of the Project permitting, the project will be conditioned to require the study, development, construction, implementation, and management of a Diablo Lands Connector Trail, that would generally connect the area south of the DCPP site to the area north of the site. The conditions would be presented at the time of Project consideration, along with the certification of the Final EIR. A summary of the conditions is included below.

A summary of the conditions is included below.

Permit Condition 1

- *Diablo Lands Coastal Access:* PG&E would be required to record an Irrevocable Offer to Dedicate a Public Access Easement (Offer to Dedicate) through PG&E and Eureka Energy Company-owned lands that would generally connect the area south of the Diablo Canyon Power Plant site to the area north of the site or another alignment determined through the trail alignment Identification process. The Offer to Dedicate would be temporarily undefined and would "float" across the entirety of the PG&E and/or Eureka-owned land. The future public access easement would be referred to herein as the "Diablo Lands Connector Trail."

Permit Condition 2

- *Trail Alignment Identification Plan:* The Trail Alignment Identification Plan would establish the team, methodology, and process to locate an optimal route or routes for a public access trail through the PG&E and/or Eureka Energy Company-owned lands and/or other property if appropriate, based on the following goals:

  I. Identification of lateral access (northwest to southeast) over PG&E- and/or Eureka Energy Company-owned lands and/or other nearby public property, if appropriate, for the Diablo Lands Connector Trail alignment;

  II. Identification of vertical access to the coastal bluff and beaches, unless this access could result in impacts to sensitive cultural and coastal resources;

  III. Avoids impacts to sensitive cultural and coastal resources and is based upon the results of the comprehensive environmental assessment;

  IV. Avoids the post-decommissioning PG&E revised Owner Controlled Area by a sufficient safety margin for a public trail to bypass the NRC-designated protected area; and

  V. Balances protection of sensitive coastal and cultural resources with coastal public access and other public recreation policies.

  VI. Alignment with the CPUC Tribal Land Transfer Policy (TLTP) and Public Resources Code §25548(g), acknowledging that public access pursuant to this permit condition is subordinate to transactions associated with the Diablo Lands pursuant to the TLTP and PRC §25548(g).

  The Diablo Lands Connector Trail route(s) shall be identified through topographic desktop analysis supported with ground-truthing fieldwork and identified after completion of a comprehensive Environmental Assessment to ensure that the goals above are met and sensitive coastal and cultural resources are protected.

  The trail design team tasked with identifying the appropriate trail route(s) would include County-approved engineers, biologists, and archeologists, as well as representatives from the Tribes that participated in the AB 52 consultation process for the decommissioning Project, the California Coastal Commission, California State Parks, PG&E/Eureka Energy Company, and the County.

- *Trail Access Plan:* Once the Trail Alignment Identification Plan has been approved, the Applicant, in conjunction with the trail design team, would prepare and submit a Trail Access Plan

which includes the completed Environmental Assessment for the selected trail route(s). This document would also establish the carrying capacity and managed access requirements for the selected route(s). Based on the Trail Access Plan and completed Environmental Assessment, the County would identify the type of County Land Use Permit and level of CEQA review required for the trail.

Permit Condition 3

- *Diablo Lands Connector Trail Entitlement Permitting*: Within 90 days of approval of the Trail Access Plan, an application for the appropriate land use permit would be required to be submitted to the County. Along with the permit application, preliminary trail construction plans, including grading and drainage, would be required. Included with the application, a Trail Design Plan would also be required. This Trail Design Plan would address:
  - Consistency with County and state policies, plans, and programs pertaining to coastal access;
  - A cost estimate for construction of the trail and appurtenant facilities such as parking, boardwalks, benches, signs, etc. A preliminary annual maintenance budget would also be required.
  - Draft Operations and Management Plan for post-construction trail operations to address management of the trail including public safety and protection of biological and cultural resources. The draft Operations and Maintenance Plan would also address the following:
    - Identify minimum standards and provisions necessary to meet federal security and public health and safety requirements and required implementation measures such as signage, fencing, and personnel.
    - Provide for management of potential vertical access locations to tidelands (if identified in the Trail Access Plan and Environmental Assessment).
    - Demonstrate that the proposed Diablo Lands Connector Trail will conform with County requirements regarding minimum widths, necessary improvements, signage, etc.).
    - Identify management access measures, such as docent managed trail areas.
    - Include the estimated budget necessary to construct, maintain, and manage the Diablo Lands Connector Trail.
    - Identify a trail management entity, if it is not the Applicant.

Permit Condition 4

- *Trail Construction and Implementation:* This permit condition would require that within 180 days following termination of the NRC Part 50 license for the power plant, the Applicant would submit a building permit application for construction of the permitted trail. With the building permit application, a Final Trail Operations and Management Plan would be submitted. The plan would include monitoring and evaluation measures to determine the success in implementing the plan such as:
  - An annual summary of trail use and a five-year budget for maintenance and cost projections.
  - A description of the effects, if any of visitation on security and public safety, agriculture, and biological and cultural resources, and the measures taken to avoid or reduce those effects.

Prior to the issuance of the Final Occupancy/Certification for public use of the trail or the release of the bond for DCPP restoration monitoring, the County would approve the Final Trail Operations and Management Plan for implementation. The Offer of Dedication for the specific trail route would then be accepted by the County or other public agency based on the map and legal description for the specific route for the Diablo Lands Connector Trail.

With these permit conditions, the Project would be consistent with land use policies and regulations (including the LCP) related to coastal access because a new Diablo Lands Connector Trail would be developed and managed in perpetuity to provide additional public access to the coastline, while minimizing impacts on sensitive resources. Therefore, impacts would be less than significant (Class III).

Railyards

Activities at the railyards would not preclude coastal access. Therefore, no impact would occur.

Phase 2

As discussed for Phase 1, the Project is consistent with land use policies and regulations (including the LCP) related to coastal access because a new Diablo Lands Connector Trail would be developed and managed in perpetuity to provide additional public access to the coastline, while minimizing impacts on sensitive resources. Therefore, impacts would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. As discussed for Phase 1, the Project is consistent with land use policies and regulations (including the local coastal program) related to coastal access because a new Diablo Lands Connector Trail would be developed and managed in perpetuity to provide additional public access to the coastline, while minimizing impacts on sensitive resources. Therefore, impacts would be less than significant (Class III).

Future Actions. As discussed for Phase 1, the Project is consistent with land use policies and regulations (including the local coastal program) related to coastal access because a new Diablo Lands Connector Trail would be developed and managed in perpetuity to provide additional public access to the coastline, while minimizing impacts on sensitive resources. Therefore, impacts would be less than significant (Class III).

Mitigation Measures for Impact LUP-3. No mitigation measures are required.

4.12.5 Cumulative Impact Analysis

Geographic Extent Context

A cumulative impact related to land use and planning has the potential to occur from construction activities associated with other projects that may be located within the same sites or along the same transport routes as the Proposed Project. Construction of multiple projects along the same public roads could affect public access to a degree that the combined impact could be cumulatively considerable. Cumulative projects that would be applicable to this analysis include projects that are located at the DCPP site, within the Avila Beach community, and along the

proposed transport routes to the DCPP site and rail sites. However, with the exception of the Orano System ISFSI Modifications (#1), many of the projects listed in Table 3-1 are already completed or will be complete prior to the Proposed Project's decommissioning activities. Therefore, the Orano System ISFSI Modifications is considered for potential cumulative impacts related to land use and planning.

As neither Phase 1 nor Phase 2 activities would have an impact on agricultural resources, the Proposed Project would not contribute to an agricultural-related effect that is cumulatively considerable.

Cumulative Impact Analysis

Phase 1 and Phase 2

The Orano System ISFSI Modifications would be scheduled to occur during the Proposed Project's Phase 1 activities and would require approximately 384 truck trips to haul the construction materials, equipment, and precast components for the Orano System to the DCPP site. As discussed under Impact LUP-1, transport activities during Phase 1 and Phase 2 could temporarily limit public access along the proposed routes, and MM TRA-1 through MM TRA-5 would be implemented to land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a TMP, and ongoing notifications to affected land uses. Similarly, any combined land use effect of the Proposed Project with the Orano System ISFSI Modifications would be effectively mitigated through MM TRA-1 through MM TRA-5 to a level that is less than significant. With implementation of MM TRA-1 through MM TRA-5 during Phase 1, the Proposed Project's contribution to a land use and planning conflict would not be cumulatively considerable. No additional mitigation is required.

Post-Decommissioning Operations

New facility operations, including future marina use, would not disrupt or displace an established land uses outside of the DCPP site. In addition, the use of public roadways to access these activities would not interfere with or temporarily limit public access within the adjacent communities. Post-decommissioning operations would not contribute to a land use and planning conflict that is cumulatively considerable.

4.12.6 Summary of Significance Findings

Table 4.12-6 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project.

Table 4.12-6. Summary of Impacts and Mitigation Measures – Land Use and Planning

Impact Statement	Impact Significance Class				Mitigation Measures
	Phase 1		Phase 2	Post-Decom	
	DCPP	*PBR/SB*	*DCPP*	*Ops/Marina*	
LUP-1: Disrupt or displace an existing land use	II	II/II	II	NI/NI	**EM-2:** Project Plan, Updating, Tracking, and Reporting **TRA-1:** Truck Transportation Outside of Peak Hours **TRA-2:** Specialty Heavy-Haul Transport Vehicle Transportation Management Plan **TRA-3:** Decommissioning Liaison **TRA-4:** Advance Notification of Decommissioning **TRA-5:** Quarterly Decommissioning Updates
LUP-2: Disrupt or convert surrounding agricultural uses	NI	NI/NI	NI	NI/NI	None required
LUP-3: Conflict with any applicable land use policy or regulation of an agency with jurisdiction over the project (including the local coastal program) related to coastal access	III	NI/NI	III	III/III	None required
Cumulative Impact	Not cumulatively considerable		Not cumulatively considerable		None required

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long-Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

4.13 Noise

This section provides information regarding the fundamentals of terrestrial noise and vibration, and describes the existing noise environment, identifies applicable significance thresholds, assesses the terrestrial noise and vibration impacts on sensitive receptors, and recommends measures to avoid or mitigate any effects found to be potentially significant in the Project area. A sensitive receptor includes residences, health care facilities, hotels, bed and breakfast facilities, schools, churches, libraries, museums, public assembly and entertainment, office, and outdoor sports and recreation (San Luis Obispo, 2022). Much of the analysis presented herein is based on the Noise Assessment Report prepared for PG&E by ERM (PG&E, 2020) and the Noise Assessment Report for the Santa Maria Valley Railyards (PG&E, 2021c).

Underwater noise impacts related to marine organisms such as marine mammals, sea turtles, and fish are analyzed in Section 4.4, *Biological Resources – Marine*.

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and were considered in preparing this section:

- Address the impacts of noise to sensitive receptors.
- Ensure that noise activities are minimized to avoid disturbance to neighborhoods, potentially causing discomfort or annoyance, under the Pismo Beach General Noise Regulations, if the Pismo Beach Railyard (PBR) site is required to support decommissioning.
- Restrict decommissioning activities that create excessive noise from 9:00 a.m. to 5:00 p.m., Monday through Friday.
- Address any noise impacts to local neighborhoods southeast of Price Canyon Road and to the City of Pismo Beach.

4.13.1 Environmental Setting

The Project area includes the Diablo Canyon Power Plant (DCPP) site, PBR, and the Santa Maria Valley Railyard Facility, located at 2820 W. Betteravia Road in unincorporated Santa Barbara County (SMVR-SB). The noise study area considers sensitive receptors and uses near the DCPP and along the proposed demolition waste material haul routes from the DCPP to the PBR and/or SMVR-SB sites.

The NRC-regulated, 750-acre, DCPP site lies within unincorporated San Luis Obispo County, with approximately two-thirds of the DCPP site within the coastal zone, as defined by the California Coastal Act of 1976, and the remaining approximate one-third outside the coastal zone. No noise sensitive receptors or uses are located within several miles of the DCPP facility. The PBR site is located within the incorporated city limits of Pismo Beach, mostly outside of the coastal zone; however, the southwestern corner of the PBR site is within the coastal zone. The haul route from the DCPP to PBR site is initially located in the unincorporated land controlled by PG&E (along

Diablo Canyon Road/Diablo Ocean Drive), with the entire haul route within San Luis Obispo County. The haul route to SMVR-SB traverses the City of Santa Maria and Santa Barbara County.

Fundamentals of Noise and Vibration

Noise

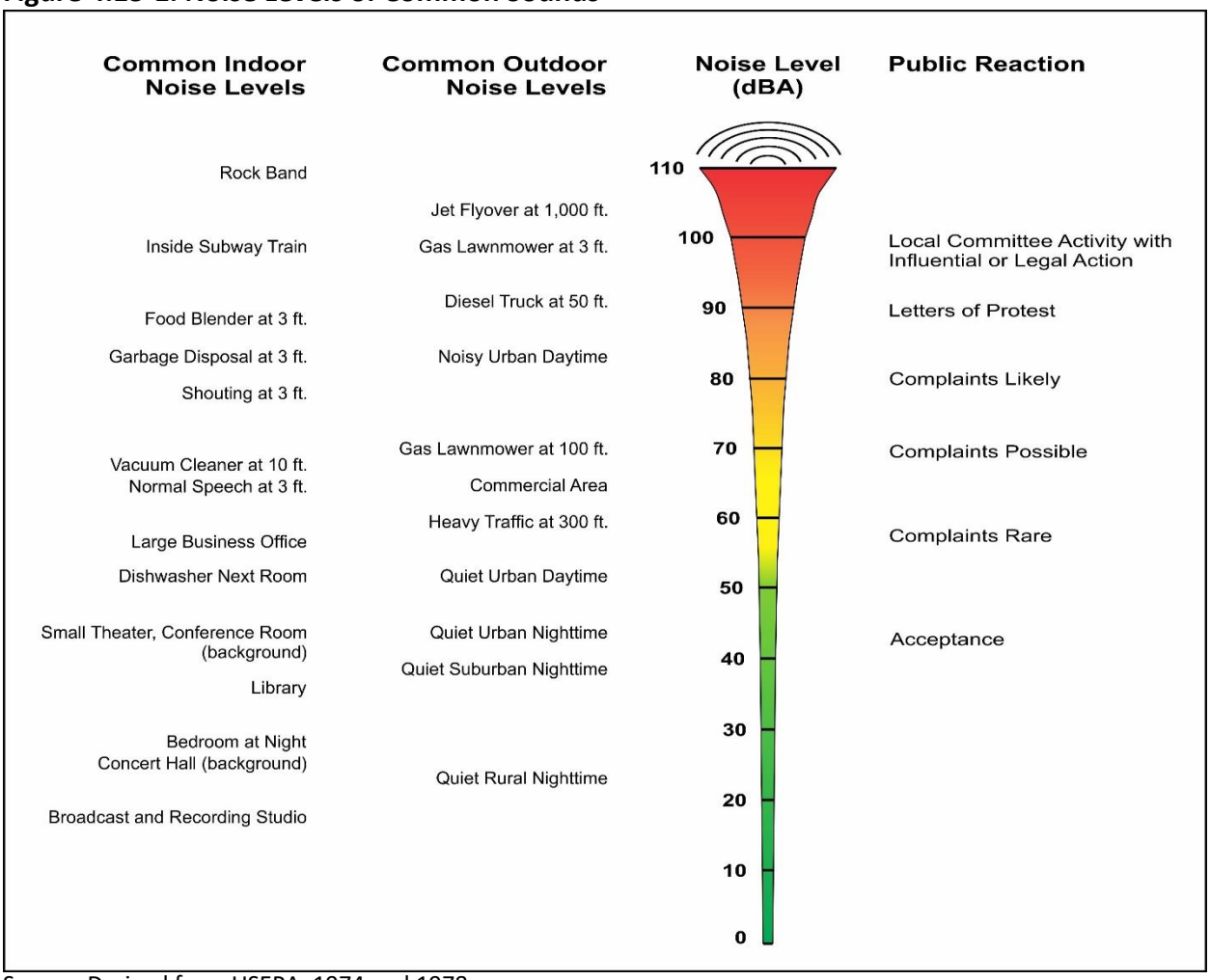
Noise is mainly defined as unwanted sound. In terms of the decommissioning of the DCPP, noise may occur in terrestrial and underwater environments (see Section 4.4, *Biological Resources – Marine,* for underwater noise impact analysis). In the terrestrial setting, noise is generally air-borne. Sound is typically described by its pitch (height or depth of a tone or sound) and loudness (amplitude or intensity of sound waves combined with the ear's reception characteristics). The amplitude of pressure waves generated by a sound source determines the loudness of that source. Essentially airborne sound is the fluctuation of air pressure above and below atmospheric pressure. Sound pressure amplitude is measured in micropascals (µPa), where 1 µPa equals approximately one hundred-billionth (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different noise environments can range from less than 100 to 100,000,000 µPa. Because of this large range, sound pressure level (sound level) is often expressed in decibels (dB). Noise is typically measured on the A-weighted decibel scale, denoted as dBA, which provides an expression of the relative loudness of sounds in air as perceived by the human ear. This is a logarithmic scale where a doubling of sound energy corresponds to a 3-dB increase in acoustic energy, a 10-dB increase is 10 times more intense, a 20-dB increase is 100 times more intense, etc.[42] Figure 4.13-1 illustrates typical noise levels for common sounds and their associated subjective responses.

Airborne Noise

When airborne sound propagates over a certain distance, the sound changes in both level and frequency content. The way noise is reduced with distance depends on the following important factors as identified in Table 4.13-1.

[42] Because decibels are logarithmic units, sound pressure levels cannot be added or subtracted through ordinary arithmetic. When two identical sources each produce sound of the same loudness, their combined sound level "doubles" or at a given distance would be 3 dB higher than one source under the same conditions. For example, if one excavator produces a sound pressure level of 80 dBA, two excavators would combine to produce 83 dBA not 160 dBA.

Figure 4.13-1. Noise Levels of Common Sounds



Source: Derived from USEPA, 1974 and 1978.

Table 4.13-1. Airborne Sound Propagation Factors

Factor	Description
Geometric Spreading from Point Sources	Sound from a single source (i.e., a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates (or drops off) at a rate of 6 dBA for each doubling of distance (intensity drops to one-quarter of the previous level with each doubling of distance).
Geometric Spreading from Line Sources	Some sound generators, such as highway noise, are not single stationary point sources of sound. The movement of vehicles on a highway makes the source of the sound appear to emanate from a "line" source rather than a point. The change in sound level from a line source is 3 dBA per doubling of distance (intensity drops to half of the previous level with each doubling of distance).
Ground Absorption	Usually, the noise path between the source and the observer is very close to the ground. The excess noise attenuation from ground absorption occurs due to acoustic energy losses on sound wave reflection. Additionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is done for simplification only; for distances of less than 200 feet, prediction results based on this scheme are sufficiently accurate. For acoustically "hard" sites (i.e., sites with a reflective

Table 4.13-1. Airborne Sound Propagation Factors

Factor	Description
	surface, such as a parking lot or a smooth body of water, between the source and the receptor), no excess ground attenuation is assumed because the sound wave is reflected without energy losses. For acoustically absorptive or "soft" sites (i.e., sites with an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dBA per doubling of distance is normally assumed. When added to the geometric spreading, the excess ground attenuation results in an overall drop-off rate of 4.5dBA per doubling of distance for a line source and 7.5 dBA per doubling of distance for a point source. Although some ground attenuation is expected, it is difficult to characterize accurately and is often ignored in a noise analysis to ensure a conservative analysis.
Atmospheric Effects	Research by the California Department of Transportation (Caltrans) and others shows that atmospheric conditions can have a major effect on noise levels. Wind has been shown to be the single most important meteorological factor within approximately 500 feet, whereas vertical air temperature gradients are more important over longer distances. Other factors, such as air temperature, humidity, and turbulence, also have major effects. Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lower noise levels. Increased sound levels can also occur because of temperature inversion conditions (i.e., increasing temperature with elevation) which cause reflection of sound from the inversion layer back to the ground. As with ground absorption, atmospheric effects are often ignored in the interest of a conservative analysis.
Shielding by Natural or Human-made Features	A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. The amount of attenuation provided by this shielding depends on the size of the object, proximity to the noise source and receptor, surface weight, solidity, and the frequency content of the noise source. Natural terrain features (such as hills and dense woods) and human-made features (such as buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receptor with the specific purpose of reducing noise. A barrier that breaks the line of sight between a source and a receptor would typically result in at least 5 dBA of noise reduction. A higher barrier may provide as much as 20 dBA of noise reduction. Lightly built barriers provide less attenuation.
Human Response to Noise	The dB scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a physical quantity, the loudness or human response is determined by characteristics of the human ear. Human hearing is limited in the range of audible frequencies, as well as in the way it perceives the sound pressure level in that range. In general, people are most sensitive to the frequency range of 1,000 to 8,000 hertz (Hz) and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels in individual frequency bands are weighted based on the sensitivity of human hearing in those frequencies. The A-weighted sound level (expressed in units of dBA) can be computed using this information.

Source: CSLC, 2019 – Table 4.11-2.

A-weighted sound levels are typically measured and shown as the equivalent sound pressure level (Leq). Leq is defined as the average noise level for a stated period of time and is commonly used to measure steady-state sound that is usually dominant. Statistical methods are used to capture the dynamics of a changing acoustical environment. Statistical measurements are typically denoted by L_n, where "n" represents the percentile of time that the stated sound level is

exceeded. Therefore, L_{90} represents the noise level that is exceeded during 90 percent of the measurement period, which typically represents a continuous noise source. Similarly, L_{10} represents the noise level exceeded for 10 percent of the measurement period. Another metric used in determining the impact of environmental noise is the differences in response people have to daytime and nighttime noise levels. During the evening and at night, exterior background noises generally are lower than daytime levels. However, most household noise also decreases at night, and exterior noise becomes more noticeable. Furthermore, most people sleep at night and are typically more sensitive to intrusive noises during when sleeping.

To account for human sensitivity to evening and nighttime noise levels, the day-night sound level (L_{dn}) (also referred to as DNL) and the community noise equivalent level (CNEL) were developed. The L_{dn} is a noise metric that accounts for the greater annoyance of noise during the nighttime hours (10 p.m. to 7 a.m.). CNEL is a noise index that accounts for the greater annoyance of noise during both the evening hours (7 p.m. to 10 p.m.) and nighttime hours. The general human response to changes in noise levels that are similar in frequency content (such as comparing increases in continuous Leq traffic noise levels) are summarized as follows:

- A 3 dB change in sound level is considered to be a barely noticeable difference.
- A 5 dB change in sound level typically is noticeable.
- A 10 dB increase is considered to be a doubling in loudness. (PG&E, 2021b)

Vibration

Vibration is energy transmitted in waves through the ground, often referred to as groundborne vibration. Groundborne vibration consists of oscillatory waves that propagate from the source through the ground to adjacent structures. The frequency of a vibrating object describes how rapidly it is oscillating. The number of cycles per second of oscillation is the vibration frequency, which is described in terms of Hertz (Hz). The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than 1Hz to a high of about 200Hz. Energy is lost during the transfer of energy from one particle to another, and therefore the vibratory energy is reduced with increasing distance from the source of the vibration. There are several different methods which are typically used to quantify vibration amplitude. One is the Peak Particle Velocity (PPV) and another is the root-mean-square (RMS) velocity, both measured in inches per second. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV is often used in monitoring construction and other peak events since it is related to the stresses that are experienced by buildings.

The two main concerns related to vibrations associated with construction, or in this case decommissioning, are the potential to interfere with the enjoyment of life and the potential to damage a structure. The nature of potential structural damage could be cosmetic or could even threaten the integrity of the building.

Terrestrial Noise

DCPP Site

The DCPP site is in a remote, rural, coastal area where ambient noise ranges from 55 and 65 dBA Leq. The primary noise sources include the ocean waves and DCPP operations (e.g., diesel generators, vehicular noise, machinery). Existing operations at DCPP create a relatively steady level of noise typical of industrial sites. While some activities at the DCPP site exceed 80 dBA near the noise source, noise levels are normally between 50 and 65 dBA depending on the proximity of the noise source and the natural noise generated by the ocean waves. Further away from routine DCPP operations and along Diablo Canyon Road/Diablo Ocean Drive as one drives to Port San Luis, noise levels range from approximately 40 to 50 dBA. (PG&E, 2021b)

The DCPP site is generally surrounded by open space, PG&E owned or leased land, conservation space, federally owned parcels, and the Pacific Ocean (see Figure 2-7, Land Ownership). There are no residences or other occupied properties located within approximately 6.5 miles of the site. The Montaña de Oro State Park campground is the nearest location of temporary shelter, approximately 5 miles from the DCPP site. Recreational uses, including parks, campgrounds, playgrounds, and beaches, are located nearby, with the closest of these being Coon Creek Beach, approximately 3.7 miles from the site. In addition, the southern terminus of the Point Buchon Trail is approximately 1.1 miles from the northern edge of the DCPP site.

Truck Haul Routes to PBR and SMVR-SB

Two potential rail sites would be utilized to transport the waste via truck from the DCPP site, including the PBR and Betteravia Industrial Park (SMVR-SB). As such, truck haul routes are considered in this noise analysis. Noise monitoring conducted for the Proposed Project includes 35 short term (30-minutes per location) noise measurements during the daytime and nighttime, and one long-term (7-day) noise measurement conducted at the PBR site.

PBR

Short-term (30-minute) measurements were completed along the haul route from the DCPP site to PBR between 8:00 a.m. and 5:00 p.m. (daytime) and 10:00 p.m. and 2:00 a.m. (nighttime) from July 6, 2020 to July 9, 2020 (see Figure 4.13-2).

Tables 4.13-2 and 4.13-3 shows the results of the short-term daytime and nighttime ambient noise levels, respectively, along the haul route from the DCPP site to PBR.

Existing noise during daytime hours was dominated by vehicular traffic at most locations. Other sources of noise included natural sounds (insects, birds, rustling vegetation, and people conversing) as well as some residential and commercial maintenance activities. During nighttime hours, noise sources included vehicular traffic, ocean waves, and natural sounds. The results of the noise monitoring survey are documented in Table 4.13-2 and Table 4.13-3.

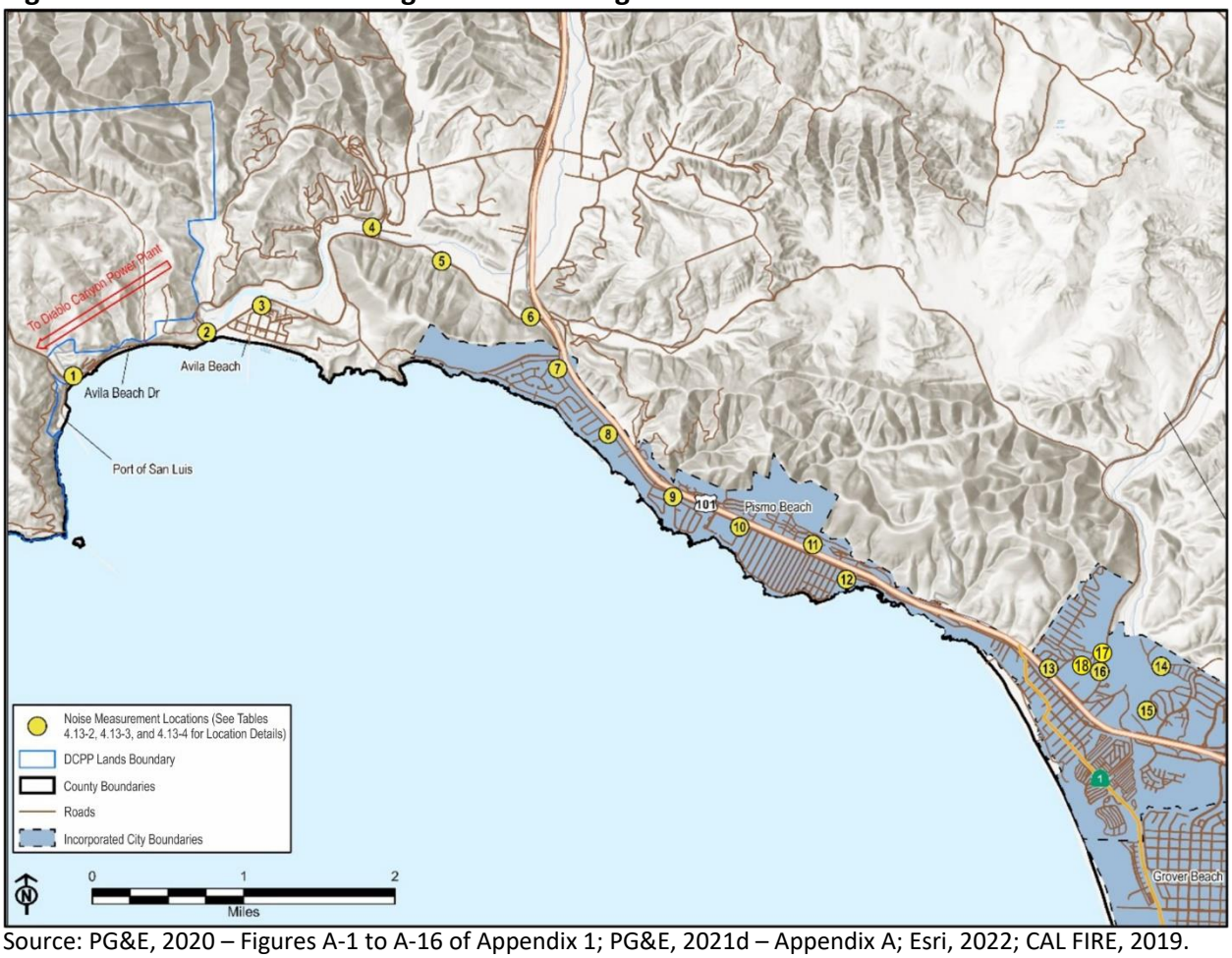
One long-term (7-day) measurement was completed at Dell Court (see Figure 4.13-2 – Location 16), a residential neighborhood near the PBR site within the City of Pismo Beach limits, from July 6 to 13, 2020. Meteorological conditions during the 7-day period included temperatures ranging from 49°F to 88°F, and winds from varying directions ranging in speed from calm to 10 miles per

hour, with some higher gusts. Other than a few periods of light mist, no precipitation occurred during the measurement period (PG&E, 2021b).

The results of the long-term ambient sound measurements are presented in Figure 4.13-3 and in Table 4.13-4. Figure 4.13-3 provides a graphical representation of the 1-minute measured Leq sound levels. The data plotted in Figure 4.13-3 reveals the wide diurnal range of existing sound levels that occurred during the measurement period. Ambient Leq sound levels ranged from about 30 dBA late at night, to 55 dBA and more during the day. While the diurnal range in sound levels was found to be large, measured sound levels from day to day are shown to be very similar (PG&E, 2021b).

Two additional locations are included in this analysis, Location 17 (Price Canyon Road Residence) and Location 18 (Judkins Middle School), shown in Figure 4.13-2. Noise measurements were not conducted at Location 17 due to inaccessibility, but ambient conditions were estimated to be the same as Location 16, provided in Table 4.13-4. Noise measurements were also not conducted at Location 18 due to inaccessibility, but ambient conditions were conservatively estimated to be 3 dBA higher than at Location 16 due to closer proximity of this receptor to traffic noise sources on Price Canyon Road.

Figure 4.13-2. Noise Monitoring Locations Along the Haul Route Between DCPP and PBR



Source: PG&E, 2020 – Figures A-1 to A-16 of Appendix 1; PG&E, 2021d – Appendix A; Esri, 2022; CAL FIRE, 2019.

Table 4.13-2. Summary of Measured Daytime Ambient Noise Levels Along DCPP to PBR Haul Route (short term measurements)

Location	Date	Time	L_{eq} (dBA)	L_{10}(dBA)	L_{50}(dBA)	L_{90}(dBA)
1. Diablo Canyon Road/ Avila Beach Drive	July 7, 2020	11:22-11:52	61.8	65.4	57.8	49.2
2. San Luis Bay Inn (Avila Beach Drive)	July 7, 2020	11:57-12:27	62.2	65.7	59.3	51.6
3. Avila Beach Drive/ Beach Colony	July 7, 2020	12:43-13:13	66.4	69.7	61.4	52.2
4. Avila Beach Drive/ San Luis Bay Drive	July 7, 2020	13:21-13:51	52.2	54.6	50.1	47.3
5. Sycamore Mineral Springs Resort (Avila Beach Drive)	July 7, 2020	14:00-14:30	58.5	61.3	54.9	46.0
6. Avila Beach Drive/ Cabrillo Highway	July 7, 2020	14:38-15:08	59.4	59.7	58.0	57.1
7. Shell Beach Road/ El Dorado Way	July 7, 2020	15:14-15:44	60.5	63.1	59.2	57.8
8. North Silver Shoals Drive	July 7, 2020	15:50-16:20	58.6	59.1	58.0	57.5
9. Seacliff Drive	July 8, 2020	09:20-09:50	60.0	63.5	57.1	51.9
10. Shell Beach Elementary School	July 8, 2020	09:59-10:29	64.3	67.7	61.8	55.2
11. Corralitos	July 8, 2020	10:35-11:05	65.6	67.4	65.0	62.2
12. Dinosaur Caves Park (Shell Beach Road)	July 8, 2020	11:23-11:53	52.0	54.8	50.2	47.0
13. Bello Street/ San Luis Avenue	July 8, 2020	11:58-12:28	64.6	67.4	63.2	59.2
14. Vincente Court	July 8, 2020	12:38-13:08	53.5	56.7	49.4	44.6
15. Reef Court	July 8, 2020	13:13-13:43	58.8	62.0	56.4	51.1

Source: PG&E, 2020 – Table 6.3.9.3.1-2.

Table 4.13-3. Summary of Measured Nighttime Ambient Noise Levels Along DCPP to PBR Haul Route (short term measurements)

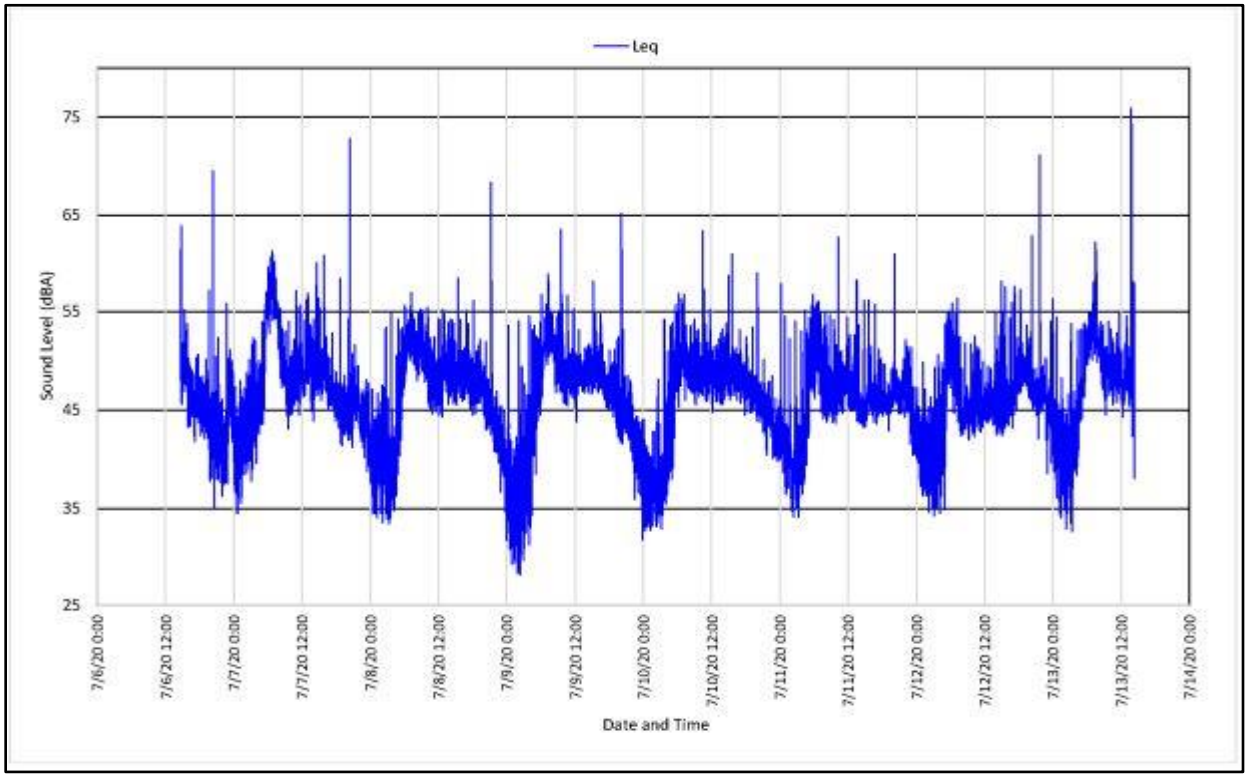
Location	Date	Time	L_{eq} (dBA)	L_{10}(dBA)	L_{50}(dBA)	L_{90}(dBA)
1. Diablo Canyon Road / Avila Beach Drive	July 8-9, 2020	23:41-00:11	63.0	62.1	43.8	38.1
2. San Luis Bay Inn (Avila Beach Drive)	July 8, 2020	2308-23:38	56.0	55.1	54.7	54.5
3. Avila Beach Drive / Beach Colony	July 8-9, 2020	23:35-00:05	64.4	63.8	52.9	52.6
4. Avila Beach Drive / San Luis Bay Drive	July 8, 2020	22:00-22:30	53.0	52.4	51.0	50.5
5. Sycamore Mineral Springs Resort (Avila Beach Drive)	July 8,2020	00:18-00:48	56.2	51.6	51.1	51.0

Table 4.13-3. Summary of Measured Nighttime Ambient Noise Levels Along DCPP to PBR Haul Route (short term measurements)

Location	Date	Time	L_{eq} (dBA)	L_{10}(dBA)	L_{50}(dBA)	L_{90}(dBA)
6. Vila Beach Drive / Cabrillo Highway	July 7-8, 2020	23:45-00:15	58.3	58.4	57.8	57.3
7. Shell Beach Road / Ed Dorado Way	July 7, 2020	23:10-23:40	55.4	56.5	54.8	54.2
8. North Silver Shoals Drive	July 7, 2020	22:35-23:05	56.8	58.8	55.6	53.8
9. Seacliff Drive	July 7, 2020	22:00-22:30	59.8	62.4	56.5	53.4
10. Shell Beach Elementary School	July 7, 2020	00:58-01:28	51.9	52.8	51.0	50.6
11. Corralitos	July 7, 2020	00:22-00:52	57.8	61.2	53.5	51.5
12. Dinosaur Caves Park (Shell Beach Road)	July 6-7, 2020	23:47-00:17	53.2	54.8	52.3	51.3
13. Bello Street / San Luis Avenue	July 6, 2020	23:12-23:42	56.9	59.9	53.8	52.6
14. Vincente Court	July 6, 2020	22:34-22:54	51.2	54.0	39.4	33.6
15. Reef Court	July 6, 2020	22:00-22:30	54.4	55.8	55.2	39.3

Source: PG&E, 2020 – Table 6.3.10.3.1-3.

Figure 4.13-3. Pismo Beach Railyard (Location 16 Dell Court) 1-Minute Ambient Sound Levels (July 6-13, 2020)



Source: PG&E, 2020 – Figure 6.3.1.3.2-2.

Table 4.13-4. Average Measured Daily Sound Levels – Pismo Beach Railyard (Location 16, Dell Court, long term measurements)

Day	Averaging Period	Leq (dBA)	L_{10} (dBA)	L_{50} (dBA)	L_{90} (dBA)
July 7, 2020	Daytime	52.3	49.6	51.6	54.5
	Nighttime	50.5	52.8	49.8	47.4
	24-Hour	50.7	50.7	49.4	47.2
July 8, 2020	Daytime	50.5	47.7	49.6	52.9
	Nighttime	46.1	49.3	44.3	41.7
	24-Hour	48.8	51.2	47.5	45.4
July 9, 2020	Daytime	50.5	47.4	49.4	52.8
	Nighttime	45.7	49.2	43.7	41.0
	24-Hour	48.5	51.0	47.1	45.0
July 10, 2020	Daytime	50.1	46.8	49.0	52.6
	Nighttime	45.9	49.4	43.8	41.1
	24-Hour	48.2	50.8	47.0	44.8
July 11, 2020	Daytime	48.5	44.8	46.8	51.5
	Nighttime	47.4	50.9	45.3	42.2
	24-Hour	47.6	50.6	45.9	43.7
July 12, 2020	Daytime	47.3	43.5	45.8	50.3
	Nighttime	46.8	50.1	45.1	41.3
	24-Hour	47.9	51.4	45.8	43.3
Overall Long Term Period	Daytime	50.8[1,2]	47.3	49.4	53.3

Source: PG&E, 2020 – Table 6.3.11.3.2-1.
[1] Ambient noise measurements were not conducted at Location 17 (Price Canyon Road Residence) due to inaccessibility. Ambient conditions estimated to be the same as Location 16.
[2] Ambient noise measurements were not conducted at Location 18 (Judkins Middle School) due to inaccessibility. Ambient conditions conservatively estimated to be 3 dBA higher than at Location 16 due to closer proximity of this receptor to traffic noise sources on Price Canyon Road.

SMVR-SB

Noise monitoring was performed on April 16, 2021 and April 21, 2021 to document ambient noise conditions at 20 locations representative of the general noise environment along the truck haul route from DCPP to the SMVR-SB site (see Figure 4.13-4). No sensitive receptors were identified along the route to the SMVR-SB site. The noise monitoring results are provided in Table 4.13-5.

Table 4.13-5. Noise Measurement Locations and Results for the SMVR-SB Site

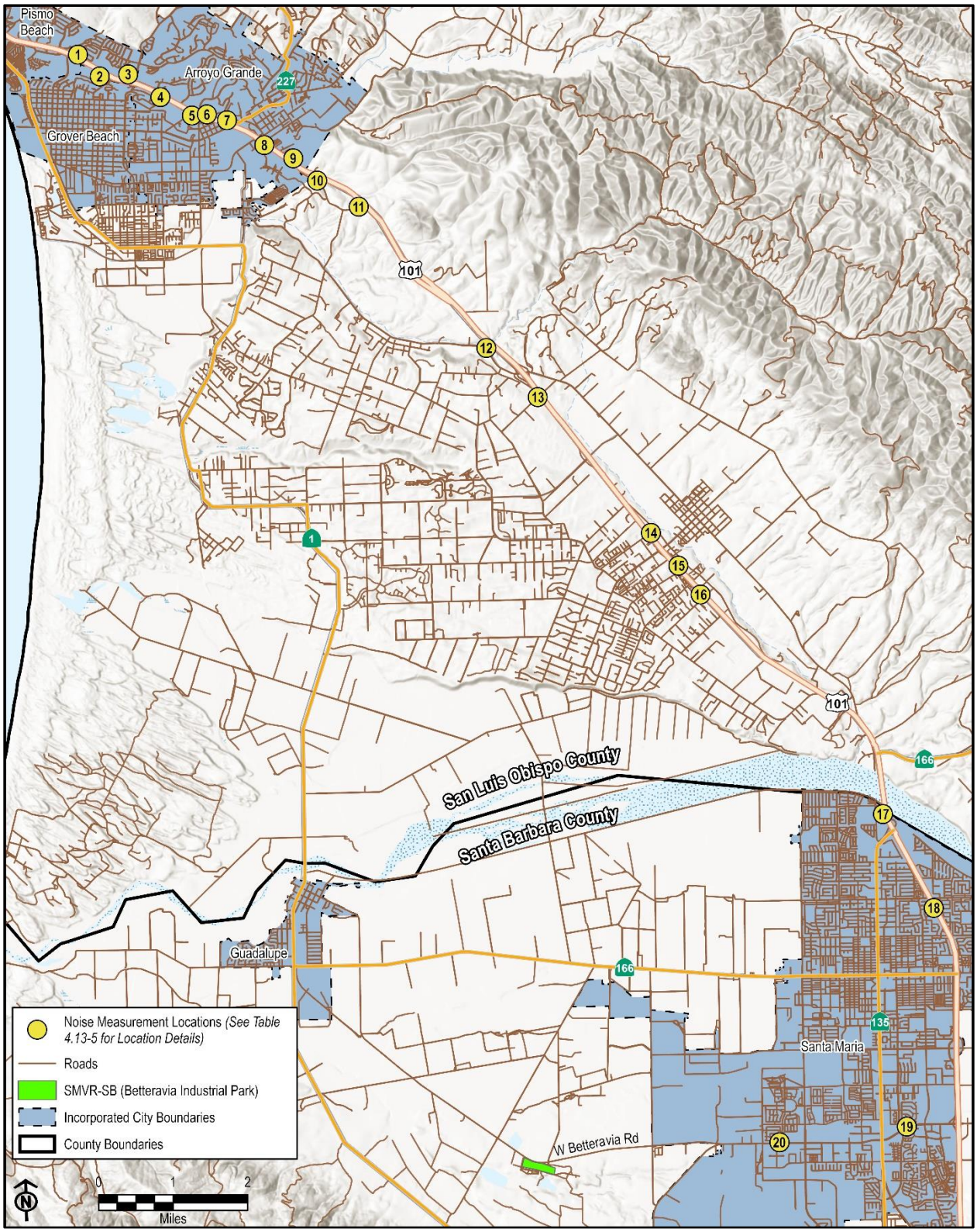
Location Number	Location	Time of Day	Leq (dBA)	L_{10} (dBA)	L_{50} (dBA)	L_{90} (dBA)
1	Irish Way	Daytime	67.5	68.9	67.4	65.7
		Nighttime	63.9	66.7	63.1	58.7
2	Owens Court	Daytime	54.9	56.2	54.6	53.5
		Nighttime	51.0	53.1	50.0	46.9
3	Branch Street Apartments	Daytime	59.9	62.2	59.3	57.6
		Nighttime	57.9	60.4	55.0	52.1
4	Hillcrest Drive	Daytime	65.4	68.6	63.7	61.1
		Nighttime	62.6	65.4	60.0	55.9

Table 4.13-5. Noise Measurement Locations and Results for the SMVR-SB Site

Location Number	Location	Time of Day	Leq (dBA)	L_{10} (dBA)	L_{50} (dBA)	L_{90} (dBA)
5	Arroyo Grande Cemetery	Daytime	67.9	71.5	65.3	61.4
		Nighttime	64.1	66.6	61.4	57.2
6	Arroyo Grande Library	Daytime	66.8	68.5	66.6	64.5
		Nighttime	60.9	63.7	60.2	56.0
7	Vernon Street	Daytime	68.3	70.5	67.4	65.5
		Nighttime	60.3	64.2	58.3	52.3
8	Arroyo Avenue	Daytime	74.3	76.6	74.0	69.4
		Nighttime	64.1	69.2	53.8	44.3
9	Church of Jesus Christ of Latter-Day Saints	Daytime	61.4	61.4	59.9	57.7
		Nighttime	57.7	60.8	56.4	53.1
10	E El Campo Road	Daytime	55.6	63.9	60.3	58.3
		Nighttime	59.7	63.4	57.0	53.4
11	Brady Lane	Daytime	55.6	58.1	54.7	52.8
		Nighttime	52.7	55.7	51.8	48.2
12	Quailwood Lane	Daytime	64.8	68.3	63.0	59.2
		Nighttime	56.8	60.8	52.0	43.9
13	Summit Station Road	Daytime	66.8	69.2	65.6	61.3
		Nighttime	58.4	63.2	50.0	41.6
14	Pioneer Street	Daytime	62.0	64.4	61.6	56.9
		Nighttime	55.7	59.8	52.5	47.2
15	Bar K Lane	Daytime	70.1	72.6	69.4	65.6
		Nighttime	62.7	67.1	58.6	51.5
16	Banyan Place	Daytime	67.7	71.0	66.2	61.9
		Nighttime	61.5	65.8	57.2	49.0
17	Bennetta Drive	Daytime	58.4	61.0	57.1	55.2
		Nighttime	47.3	51.4	44.9	39.7
18	N Bradley Road	Daytime	71.9	74.4	71.5	67.4
		Nighttime	64.1	67.2	54.3	44.2
19	E Betteravia Road	Daytime	73.1	76.9	68.6	59.3
		Nighttime	63.5	68.0	57.1	43.6
20	Westgate Road	Daytime	69.6	73.3	67.7	61.8
		Nighttime	60.7	64.3	47.6	40.9

Source: PG&E, 2021c – Appendix Q, Addendum 3, Tables 5.2.1.3.1-2 and 5.2.1.4.1-3.

Figure 4.13-4. Noise Measurement Locations Along the Haul Route Between DCPP and SMVR-SB



Source: PG&E, 2021c – Figures A-1 to A-23 of Appendix 1; PG&E, 2021d – Appendix A; Esri, 2022; CAL FIRE, 2019.

4.13.2 Regulatory Setting

The primary federal and state laws, regulations, and policies that are applicable to the Proposed Project for terrestrial noise are summarized in Appendix C. Local regulations, policies, and standards relevant to the Proposed Project are listed below.

San Luis Obispo County General Plan: Noise Element

The San Luis Obispo County Noise Element (San Luis Obispo, 1992) provides the framework for addressing potential noise impacts during the planning process. The Element is generally designed to address planning for newly proposed noise sensitive developments. Goals and policies are provided to protect county residents from exposure to excessive noise, and to prevent incompatible land uses near existing or planned noise generating sources.

The Noise Element defines noise sensitive uses as the following:

- residential development (except temporary dwellings)
- schools and universities
- hospitals
- nursing and personal care
- churches
- public assembly
- libraries and museums
- hotels
- offices

The Noise Element provides the acceptability of transportation and stationary source noise levels for new development of different land uses. New development should be in "acceptable" noise environments (exterior noise levels of less than 60 dBA L_{dn}) for residential housing and other noise sensitive land uses. Development in higher noise level environments can be permitted provided effective noise mitigation (enhanced walls, windows) are designed into the new development. Potential noise mitigation measures for developments in these "normally unacceptable" areas are provided in the Noise Element. Development of new noise sensitive uses is determined to not usually be feasible when exterior noise levels exceed 70 dBA L_{dn}.

Also provided in the Noise Element are noise ordinance limits. The San Luis Obispo County Land Use and Coastal Land Use ordinances limits, conditions, and exemptions are consistent with the Noise Element. No limits on construction noise levels or allowable hours of construction/demolition are contained in the Noise Element.

San Luis Obispo County Land Use Noise Ordinance

The San Luis Obispo County Land Use noise ordinance (Chapter 22.10.120 of the County Code) contains numerical exterior and interior noise limits, although as discussed below, activities associated with the Project are exempt from the ordinance limits. The limits are applicable for affected noise sensitive areas, including residences, health care facilities, hotels, bed and breakfast facilities, schools, churches, libraries, museums, public assembly and entertainment, office, and outdoor sports and recreation (San Luis Obispo, 2022). The limits are provided for daytime and nighttime hours and are summarized in Table 4.13-6.

Table 4.13-6. San Luis Obispo County Noise Ordinance Limits

	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
	Maximum Allowable Exterior Sound Levels, dB	
Hourly Equivalent Sound Level (Leq)	50	45
Maximum Level	70	65
	Maximum Allowable Interior Noise Levels, dB	
Hourly Equivalent Sound Level (Leq)	40	35
Maximum Level	60	55

Source: San Luis Obispo, 2022.

In addition, noise level limits are provided for specific sources of noise, including air conditioning and refrigeration, waste and garbage collection, and electrical substations.

This ordinance is not applicable to the Proposed Project as the following noise sources are exempt from the ordinance:

- Construction (though not defined in the ordinance, demolition is typically considered a construction activity), provided construction occurs during the hours of 7 a.m. and 9 p.m. on any day except Saturday and Sunday, or between 8 a.m. and 5 p.m. on Saturday or Sunday.
- Noise sources associated with work performed by private and public utilities in the maintenance or modification of its facilities.
- Traffic on public roadways and railroad line operations.

San Luis Obispo County Coastal Zone Land Use Noise Ordinance

The San Luis Obispo Coastal Zone County Land Use noise ordinance (Chapters 23.06.040 through 23.060.048 of the County Code) (San Luis Obispo, 2022) is essentially identical to the above-discussed Land Use noise ordinance. The Coastal Zone noise ordinance contains the same numerical exterior and interior noise limits and exemptions as the above Land Use noise ordinance, and therefore not applicable to the Proposed Project.

San Luis Obispo County Vibration Ordinance

The San Luis Obispo County vibration ordinance (Chapter 23.06.060 of the County Code) (San Luis Obispo, 2022) prohibits perceptible vibration from industrial sources at or beyond the boundary of the Industrial Category. However, vibration from construction and demolition are exempt from the ordinance provided activities occur between the hours of 7 a.m. and 9 p.m.

Pismo Beach Noise Element

The City of Pismo Beach has a Noise Element (Pismo Beach, 1992) that is designed to address planning for newly proposed noise sensitive developments. Goals and policies are provided to protect residents from exposure to excessive noise, and to prevent incompatible land uses (e.g., residential) near existing or planned noise generating sources.

The Noise Element provides the same acceptability noise criteria for the new development of different land uses as the San Luis Obispo County Noise Element discussed above.

Pismo Beach Noise Ordinance

The Pismo Beach Noise Ordinance (Pismo Beach, 1992) contains numerical noise level limits. The limits are applicable to any source of sound in the City and are provided based on land use zoning categories as summarized in Table 4.13-7.

Table 4.13-7. City of Pismo Beach Noise Ordinance Exterior Noise Limits

Zoning Category	Time Period	Noise Level (dBA)
R1, R2, OSR, OS2, Low Density Residential	10 p.m. to 7 a.m. 7 a.m. to 10 p.m.	50 55
R3, R4, RR, High Density Residential	10 p.m. to 7 a.m. 7 a.m. to 10 p.m.	50 55
C-1, C-2, C-M, C-R, Commercial	10 p.m. to 7 a.m. 7 a.m. to 10 p.m.	60 65

Source: Pismo Beach, 1992 – Section 9.24.060, Table No. 1.

The above sound levels are not to be exceeded more than 30 minutes in any hour (L_{50}). In addition, the noise levels may not exceed the following:

- + 5 dBA for a cumulative period of 15 minutes in any hour
- + 10 dBA for a cumulative period of 5 minutes in any hour
- + 15 dBA for a cumulative period of 1 minute in any hour
- +20 dBA for any period of time.

Additionally, if the measured ambient sound level differs from the above permissible limits, the allowable noise exposure is adjusted in 5 dBA increments as appropriate to reflect the ambient sound. Lastly, if the sound has an audible tone, the sound level limits are reduced by 5 dBA.

The ordinance also addresses construction noise, limiting the allowable hours to between 7:00 a.m. and 7:00 p.m. on weekdays and Saturdays. Construction is prohibited on Sundays and holidays if it causes a noise disturbance. In addition to hour restrictions, construction noise levels associated with stationary equipment for scheduled and relatively long-term construction should be maintained, when technically and economically feasible, to the levels provided in Table 4.13-8.

Table 4.13-8. Maximum Noise Levels for Repetitively Scheduled and Relatively Long-Term Operation (10 days or more) of Stationary Equipment at Residential Properties During Construction

	Single Family Residential	Multi-Family Residential	Mixed Residential/ Commercial
Daily, except Sundays and legal holidays 7 a.m. to 7 p.m.	60 dBA	65 dBA	70 dBA
Daily 7 p.m. to 7 a.m. and all day Sunday and legal holidays	50 dBA	55 dBA	60 dBA

Source: Pismo Beach, 1992 – Section 9.24050, Part B.5.b.i.

Santa Barbara County Comprehensive Plan: Noise Element

The Santa Barbara County Comprehensive Plan Noise Element (Santa Barbara, 2009) provides information about the County's noise environment so that noise may be systematically included

in the evaluation of land use alternatives and so that a quantitative noise ordinance may be adopted. The Noise Element also provides recommendations concerning noise impact problems within Santa Barbara County, where transportation facilities are noted as being the most significant noise source.

The Noise Element defines noise sensitive uses as the following (Santa Barbara, 2009):

- Residential, including single and multifamily dwellings, mobile home parks, dormitories, and similar uses
- Transient lodging, including hotels, motels, and similar uses
- Hospitals, nursing homes, convalescent hospitals, and other facilities for long-term medical care
- Public or private educational facilities, libraries, churches, and places of public assembly.

As described in Section 1.3.3.2, *Surface Transportation Board*, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction over railyards (e.g., SMVR-SB).

Santa Barbara County Municipal Code Noise Restrictions

The Santa Barbara County Municipal Code (Santa Barbara, 2022) prohibits loud or unreasonable noise or amplified music broadcast outside a residence or building which is clearly discernable at a distance of 100 feet from the property line or which is at any level of sound in excess of 60 decibels at the edge of the property line.

Santa Maria General Plan Noise Element

While none of the Project sites are within the City of Santa Maria, haul trucks would travel through the City of Santa Maria to the SMVR-SB site. Therefore, the Noise Element and the Noise Ordinance for the City of Santa Maria are included here.

The purpose of the Santa Maria General Plan Noise Element (Santa Maria, 2009) is to set forth goals and policies that regulate the City's existing and future noise environment to protect residents and workers from exposure to excessive noise. The Noise Element's primary goal is to work towards attaining and maintaining an environment that is free of objectionable and excessive noise that may be harmful to City residents. As a planning document, the Noise Element is a comprehensive program which provides the framework in which potential noise impacts and appropriate mitigation measures are addressed during project review and long-range planning.

Santa Maria Noise Ordinance

The City of Santa Maria's Municipal Code contains a noise ordinance in Title 5 (Health and Sanitation) Chapter 5-5, Noise Regulations (Santa Maria, 2022). Section 5-5.04 determines a violation when the offending noise source exceeds the ambient noise level or the ambient base noise level, whichever is higher, as follows:

1) By any amount thirty (30) minutes for any given hour measured cumulatively
2) By five (5) dBA over fifteen (15) minutes for any given hour
3) By ten (10) dBA over five (5) minutes for any given hour
4) By twenty (20) dBA at any time.

The ambient base noise level is established in Section 5-5.05 based on land use zoning categories as summarized in Table 4.13-9.

Table 4.13-9. City of Santa Maria Ambient Base Noise Level

Zoning Category	Time Period	Noise Level (dBA)
Residential	Nighttime: 10 p.m. to 7 a.m. Daytime: 7 a.m. to 10 p.m.	45 55
Commercial	Nighttime: 10 p.m. to 7 a.m. Daytime: 7 a.m. to 10 p.m.	60 65
Industrial	Nighttime: 10 p.m. to 7 a.m. Daytime: 7 a.m. to 10 p.m.	70 75

Source: Santa Maria, 2022.

In Section 5-5.06, Unmeasurable Nuisance Noise, the discussion centers on nuisance noise. This section states, "Emitting or causing the emission of such noises is a violation of this chapter. Such sources include but are not limited to noise of construction caused by hand tools, power tools or equipment, when the noise occurs at a time other than (1) between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday, or (2) between the hours of 8:00 a.m. and 5:00 p.m., Saturday through Sunday, or as allowed by permit issued by the Noise Control Officer (Santa Maria, 2022).

Vibration

For vibration occurring in Santa Barbara County and the City of Santa Maria, and for vibration impacts on structures, the Caltrans *Transportation and Construction Vibration Guidance Manual* (Caltrans, 2020) is the guiding document. This guidance manual indicates that perceptible vibration for transient events occurs at a peak particle vibration velocity (PPV) of 0.035 inches per second (in/sec). The manual indicates that continuous/frequent intermittent vibration sources begin to annoy when their PPV exceeds 0.1 inch per second. Caltrans also provided additional criteria for human annoyance due to vibration, outlined in Table 4.13-10.

Table 4.13-10. Human Response to Transient Vibration

Human Response	PPV (inches/second)
Severe	2.0
Strongly Perceptible	0.9
Distinctly Perceptible	0.24
Barely Perceptible	0.035

Source: Caltrans, 2020 – Table 6.

The vibration guidance for human annoyance and for construction, operation, and maintenance of transportation projects, set by Caltrans, is a non-enforceable guidance. However, it does provide a basis for evaluating potential vibration impacts associated with the decommissioning of the DCPP.

The manual includes building structure vibration criteria for residential structures of 0.5 in/sec to prevent structural damage, as shown in Table 4.13-11.

Table 4.13-11. Dowding Building Structure Vibration Criteria

Structure and Condition	Limiting PPV (inches/second)
Historic and some old buildings	0.5
Residential structures	0.5
New residential structures	1.0
Industrial buildings	2.0
Bridges	2.0

Source: Caltrans, 2020 – Table 14.

4.13.3 Significance Criteria

A noise impact is considered significant if noise levels from the Proposed Project exceed established noise and vibration criteria or significance criteria based on Appendix G of the State CEQA Guidelines, as follows:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Result in a substantial permanent, temporary, or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

4.13.4 Environmental Impact Analysis and Mitigation

This analysis considers potential noise impacts during implementation of the Proposed Project onshore, including the potential for Project-generated terrestrial noise levels in the project vicinity, and groundborne vibration levels that would cause annoyance to persons or cause architectural damage to buildings. Underwater noise effects are addressed in Section 4.4, *Biological Resources – Marine*.

Each of the following noise sensitive uses associated with the Proposed Project are assessed against the applicable significance threshold criteria:

- Near DCPP
- Along the truck haul route from DCPP to the PBR and SMVR-SB
- At the PBR and SMVR-SB during refurbishment of a portion of rail and facilities operations for Project waste transport.

Impact NOI-1: Expose sensitive receptors to noise levels in excess of established standards (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

Decommissioning of the DCPP site would entail removal of the bulk of the DCPP facility, requiring the use of construction equipment and transportation of demolition material by truck or barge.

Construction equipment and transport vehicles are the noise sources with potential for noise impacts at this site. Noise data for the construction equipment anticipated to be used was obtained from the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM) (FHWA, 2006); this data indicates that noise levels generated by proposed equipment would range from 73 dBA to 90 dBA at 50 feet (reference point).

As discussed in Section 4.13.1 under "Terrestrial Noise – DCPP Site," existing ambient noise levels at the DCPP site range from 50 dB to 80 dB. Therefore, existing ambient noise levels may periodically increase due to decommissioning activities. However, the closest sensitive noise receptor to this excess noise would be more than 3 miles away from the DCPP site and separated by rugged intervening terrain. Due to the distance from the DCPP site, construction noise at this sensitive receptor (Coon Creek Beach) is conservatively predicted to be approximately 40 dBA and this receptor would not be adversely impacted by construction noise. Therefore, no sensitive receptors in the vicinity of the DCPP site would be exposed to noise levels in excess of established standards during decommissioning activities resulting in a less than significant impact (Class III).

Railyard Modifications and Truck Haul Routes

Waste generated by the Proposed Project would be transported off site to appropriate disposal facilities. The noise analysis conservatively assumes waste would be transported via trucks from DCPP to the PBR and/or the SMVR-SB site, both of which would require site modifications to support shipping by rail.

Pismo Beach Railyard

Site Modification

Modifications at the PBR site would be limited to replacing approximately 1,100 feet of existing track, wood railroad ties, and adding gravel. Equipment assumed for construction of these modifications include a truck, forklift, spike driver, and various hand tools. The analysis of construction noise levels was performed for two receptor locations near the PBR, Location 17 (Price Canyon Road Residence), and Location 18 (Judkins Middle School), assuming no intervening structures between the construction activity and the sensitive receptors. However, because PBR is located at a low elevation there are numerous elevation changes which act as noise berms between the construction activity noise and the two receptors. These noise berms are predicted to reduce construction noise levels at Locations 17 and 18 by 7.5 dBA and 18 dBA, respectively, and have been accounted for in the calculated noise levels presented in Table 4.13-12.

Table 4.13-12 shows that construction noise levels are expected to increase the existing measured daytime sound level at the nearest noise sensitive receptor on Dell Court by approximately 8.0 dBA Leq. Construction noise levels at the remaining sensitive receptor locations are shown to increase the existing ambient noise level by approximately 4 dBA or less, while at the inhabited buildings of Judkins Middle School, the predicted noise increase is 0.2 dBA. No noise impacts are therefore anticipated at the school. Additionally, as part of the Proposed Project, PG&E would prohibit engine braking of trucks, equip all mobile construction equipment with self-adjusting backup beepers, use low noise stationary equipment,

and equip all diesel-powered equipment with mufflers to reduce construction noise (AC NOI-2, *Reduce Construction Noise*).

Table 4.13-12. Calculated PBR Construction Noise Levels Compared to Ambient Conditions

Receptor Number	Calculated Construction Noise Level (dBA Leq)	Measured Daytime Ambient (dBA Leq)	Total Noise Levels (dBA Leq)	Increase Over Ambient (dBA Leq)
14. Vincente Court	55.3	53.5	57.5	4.0
15. Reef Court/Coral Court [3]	54.3	58.8	60.1	1.3
16. Pismo Beach Railyard (Dell Court)	58.1	50.8	58.8	8.0
17. Judkins Middle School	38.0	50.8 [1]	51.0	0.2
18. Price Canyon Road Residence	52.8	53.8 [2]	56.3	2.5

Source: Refer to calculations in EIR Appendix H.
[1] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient conditions estimated to be the same as Location 16.
[2] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient conditions conservatively estimated to be 3 dBA higher than at Location 16 due to closer proximity of this receptor to traffic noise sources on Price Canyon Road.
[3] The resident on Coral Court is closer to the construction noise source than the resident on Reef Court; assume same ambient noise level as Reef Court.

The Pismo Beach noise ordinance does not provide numerical limits on construction related noise but does limit the allowable hours to between 7 a.m. and 7 p.m. on weekdays and Saturdays. Construction is prohibited on Sundays and holidays if it causes a noise disturbance. The San Luis Obispo County noise ordinance limits construction activities between 7 a.m. and 9 p.m. on any day except Saturday and Sunday, or between 8 a.m. and 5 p.m. on Saturday or Sunday. As discussed in Section 2.3.4, *Modifications and Operations at Rail Facilities*, construction activities at the railyards would occur from 7:00 a.m. to 5:00 p.m., Monday through Friday. Therefore, construction would occur within the allowable hours and the potential construction noise impact from PBR site modifications is less than significant (Class III).

DCPP to PBR Truck Haul Route

Decommissioning of the Diablo Canyon facility would generate waste demolition material that would be trucked and/or barged off site. The PBR site is considered a contingency site for the transport of non-radiological and non-hazardous waste out-of-site via rail for disposal. Table 2-9 identifies the maximum amount of waste and truck trips that could use the PBR site if it were utilized. Per Section 2.3.4.2, *Pismo Beach Railyard Modifications*, the PBR site would be operated 7:00 a.m. to 5:00 p.m. Monday through Friday, but truck trips would not occur during peak traffic periods or during the morning and afternoon drop-off and pick-up periods for students at Judkins Middle School and truck idling would be limited to the extent feasible. A maximum of five truck trips per day are anticipated over the five scheduled hours of operation.[43]

[43] Per Project Description Table 2-9, the total number of truck trips during Phase 1 is 6,072 (5,401+671). Calculation: 6,072/8 years (Phase 1: 2024-2031) x 1 yr/52 weeks x 1 week/5 days = 2.9 trips/day. PG&E assumed maximum of 5 trips/day to PBR). If assume 5 years instead of 8 years, there would be 4.67 trips/day to PBR under this contingency scenario; therefore, PG&E allowed for some periods of inactivity. Phase 2, which only has 42 truck trips over an 8-year period (2032-2039), would be covered by the assumed 5 trips/day maximum to PBR.

Access to the PBR site would occur via the existing Bello Street driveway. Trucks would travel from the DCPP site via Diablo Canyon Road/Diablo Ocean Drive to Avila Beach Drive, then east on Avila Beach Drive to US-101. Trucks would then proceed south on US-101 to Pismo Beach, exit Hinds Avenue/Price Canyon Road, turn northeast on Price Canyon Road, and then east on Bello Street to the PBR site.

As discussed in Section 4.13.1, *Environmental Setting*, ambient noise level measurements were conducted at 15 short-term locations and one long-term location along and near the truck route (see Tables 4.13-2 and 4.13-3). To analyze the increase of sound levels attributed to increased truck traffic, noise modeling was performed at the 16 identified sensitive receptors where short-term and long-term ambient noise measurements were made (Locations 1-16), as well as Judkins Middle School (Location 17, at the nearest inhabited building) and the residence to the west of the PBR site on Price Canyon Road (Location 18). The modeled truck route noise levels assume 100 total truck round trips leaving DCPP heading towards the City of Pismo Beach and then to various locations, which is the maximum capacity per day during the Project (PG&E, 2021a) (would occur between the DCPP site and the City of Pismo Beach), and then up to five trucks per day between the US-101 offramp and the PBR site. Modeled truck route noise levels are compared to the measured daytime ambient noise levels in Table 4.13-13 for travel to the PBR site (refer to Figure 4.13-2 for locations). Also provided in the table are future noise levels (existing ambient plus truck traffic) and the increase over existing conditions.

Table 4.13-13. Modeled PBR Truck Route Noise Levels Compared to Measured Ambient Conditions

Receptor Number and Name	Modeled Truck Route Noise Level (Maximum Capacity of Trucks Per Day) (dBA) [1]	Measured Daytime Ambient (dBA Leq)	Future Noise Level (Ambient Plus Trucks) (dBA Leq)	Increase Over Ambient (dBA)
1. Diablo Canyon Rd/ Avila Beach Dr	37.9	61.8	61.8	0.0
2. San Luis Bay Inn (Avila Beach Dr)	44.5	62.2	62.3	0.1
3. Avila Beach Dr/ Beach Colony Ln	53.9	66.4	66.6	0.2
4. Avila Beach Dr/ San Luis Bay Dr	46.3	52.2	53.2	1.0
5. Sycamore Mineral Springs Resort (Avila Beach Dr)	53.2	58.5	59.6	1.1
6. Avila Beach Dr/ Cabrillo Highway	53.4	59.4	60.4	1.0
7. Shell Beach Rd/ Ed Dorado Way	45.4	60.5	60.6	0.1
8. North Silver Shoals Dr	46.2	58.6	58.8	0.2
9. Seacliff Dr	46.6	60.0	60.2	0.2
10. Shell Beach Elementary School	46.7	64.3	64.4	0.1
11. Corralitos	47.5	65.6	65.7	0.1
12. Dinosaur Caves Park (Shell Beach Rd)	45.5	52.0	52.9	0.9
13. Bello Street/San Luis Ave	35.9	64.6	64.6	0.0
14. Vincente Court [1]	25.3	53.5	53.5	0.0
15. Reef Court [1]	19.0	58.8	58.8	0.0

Table 4.13-13. Modeled PBR Truck Route Noise Levels Compared to Measured Ambient Conditions

Receptor Number and Name	Modeled Truck Route Noise Level (Maximum Capacity of Trucks Per Day) (dBA) [1]	Measured Daytime Ambient (dBA Leq)	Future Noise Level (Ambient Plus Trucks) (dBA Leq)	Increase Over Ambient (dBA)
16. PBR [1]	37.3	50.8	51.0	0.2
17. Judkins Middle School [1]	29.9	50.8 [2]	50.8	0.0
18. Price Canyon Road Residence [1]	42.2	53.8 [3]	54.1	0.3

Source: PG&E, 2021a – Table 3.12-7.
[1] Modeled truck route noise levels between DCPP and Pismo Beach (Locations 1-12) are based on 100 truck round trips per day (PG&E, 2021a); Modeled noise levels for Locations 13-18 have been adjusted from the March 26, 2021 Application to represent a maximum of five trucks per day.
[2] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient conditions estimated to be the same as Location 16.
[3] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient conditions conservatively estimated to be 3 dBA higher than at Location 16 due to closer proximity of this receptor to traffic noise sources on Price Canyon Road.

As shown in Table 4.13-13, Proposed Project truck traffic noise levels are well below existing measured ambient conditions at all locations, including at Judkins Middle School. The increase in noise (existing conditions plus truck traffic) is 1.1 dBA or less, which is not a perceptible change (less than 3 dB). Additionally, as part of the Proposed Project, PG&E would implement self-adjusting backup beepers that use the lowest backup noise level and disallow engine compression breaking to reduce noise related to braking and backup beepers (AC NOI-1, *Reduce Truck Traffic Noise*). As the maximum noise level increase along the truck route between the DCPP site and PBR would not be perceptible, noise would not exceed established standards and the impact is less than significant (Class III).

PBR Operational Noise

Operations at the PBR site to support the Proposed Project would include loading materials from trucks to railcars. As noted in Sections 2.3.4.1 and 2.3.4.2, the equipment for this work may include:

- two diesel-powered scissor lifts
- two diesel-powered reach lifts
- two diesel-powered forklifts
- railcar mover (need has yet to be determined)

The closest sensitive receptor to this operational activity is a residence located at on Price Canyon Road, approximately 625 feet to the west. The next nearest receptor is at Dell Court, 850 feet away. The noise analysis was performed assuming no intervening structures between the construction activity and the sensitive receptors, but as described previously, elevation changes act as noise berms between the operational activity noise and two receptors: the residence on Price Canyon Road and Judkins Middle School. These noise berms are predicted to reduce operational noise levels by 7.5 dBA and 19 dBA, respectively.

Table 4.13-14 presents the predicted noise levels assuming four of the above pieces of equipment are operating simultaneously, accounting for berm losses (see Appendix H). The

noise levels have been adjusted to present the sound level occurring 50 percent or 30 minutes in a given hour for comparison to the Pismo Beach Noise Ordinance (see Table 4.13-7).

As shown in Table 4.13-14, the predicted noise levels are all below the Pismo Beach Noise Ordinance with the exception of Dell Court at 58.1 dBA L50. This represents a significant impact as it exceeds the City's noise limit. MM NOI-1 (*Noise Barrier at Pismo Beach Railyard*) is recommended, which includes installation of a temporary noise barrier at the PBR site to reduce the operational noise level to below the City's residential noise limit during use of the PBR site during decommissioning. The impact due to PBR operational noise would be less than significant with mitigation incorporated (Class II).

Table 4.13-14. Calculated PBR Operational Noise Levels Compared to Pismo Beach Noise Ordinance

Receptor Number and Name	Calculated Operational Noise Level (L50 dBA) [4]	Measured Daytime Ambient (L50 dBA)	Total Noise Levels (L50 dBA)	Pismo Beach Noise Ordinance (L50 dBA)
14. Vincente Court	53.0	49.4	54.5	55
15. Reef Court/Coral Court [3]	52.5	56.4	57.9	60 [5]
16. Pismo Beach Railyard (Dell Court)	57.4	49.4	**58.1**	**55**
17. Judkins Middle School	35.7	49.4 [1]	49.6	55
18. Price Canyon Road Residence	52.3	52.4 [2]	55.4	55

Source: Refer to calculations in EIR Appendix H.
[1] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient conditions estimated to be the same as Location 16.
[2] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient conditions conservatively estimated to be 3 dBA higher than at Location 16 due to closer proximity of this receptor to traffic noise sources on Price Canyon Road.
[3] The resident on Coral Court is closer to the construction noise source than the resident on Reef Court; assume same ambient noise level as Reef Court.
[4] L50 noise level is approximately 2 decibels lower than the Leq noise level.
[5] Per the City of Pismo Beach Noise Ordinance, if the measured ambient noise level is above the permissible limit the allowable noise expose is adjusted in 5 dBA increments as appropriate to reflect the ambient sound.

SMVR-SB

Site Modification

The modifications at the SMVR-SB site would include refurbishment of existing rail spurs, placement of steel road plates or installation of Class 2 road base, and temporary installation of a chain link perimeter fence. The equipment assumed for construction include a truck, forklift, spike driver, generator, and various hand tools. The SMVR-SB site is in Santa Barbara County. The closest sensitive receptor, the Santa Barbara County North Jail, is also located within the unincorporated area of the County at 2301 Black Road, approximately 1.3 miles away. The predicted construction-related noise levels are calculated to be approximately 41 dBA (assumes no intervening structures or topography).

The Santa Barbara County Municipal Code Noise Restrictions prohibit loud or unreasonable noise and limits noise level at a property line to 60 dBA. The predicted construction noise level of 41 dBA complies with this requirement. Construction noise propagating further into Santa Maria would be less than 41 dBA. The Santa Maria noise ordinance does not provide

numerical limits on construction related noise but does limit the allowable hours of construction to between 7 a.m. and 6 p.m. on weekdays and Saturdays. As discussed in Section 2.3.4, *Modifications and Operations at Rail Facilities*, the Proposed Project construction activities at the railyards would occur 7:00 a.m. to 5:00 p.m., Monday through Friday. Therefore, construction noise impacts at the SMVR-SB site would be consistent with all established standards and the impact would be less than significant (Class III).

SMVR-SB Truck Haul Route

Demolition material is planned to be shipped via trucks from DCPP to the SMVR-SB site. The hours of operation for the SMVR-SB site would be 24 hours, Monday through Friday, with no shipments occurring between 6:00 a.m. and 8:00 a.m. or between 4:00 p.m. and 5:30 p.m. No more than two shipments to the SMVR-SB site would occur on a given day. Modeled truck route noise levels are compared to the measured daytime ambient noise levels in Table 4.13-15 for travel to the SMVR-SB site (refer to Figure 4.13-4 for locations). Also provided in the table are future noise levels (existing ambient plus truck traffic) and the increases over existing conditions.

Table 4.13-15. Modeled SMVR Truck Route Noise Levels Compared to Measured Ambient Conditions

Receptor Number and Name	Modeled Truck Route Noise Level (Maximum Capacity of Trucks Per Day) (dBA) [1]	Measured Daytime Ambient (dBA Leq)	Future Noise Level (Ambient Plus Trucks) (dBA Leq)	Increase Over Ambient (dBA)
1. Irish Way	40.9	67.5	67.5	0.0
2. Owens Court	36.5	54.9	54.9	0.0
3. Branch St Apartments	31.8	59.9	59.9	0.0
4. Hillcrest Dr	46.7	65.4	65.5	0.1
5. Arroyo Grande Cemetary	42.6	67.9	67.8	0.0
6. Arroyo Grande Library	42.4	66.8	66.8	0.0
7. Vernon St	39.5	68.3	68.3	0.0
8. Arroyo Ave	54.7	74.3	74.3	0.0
9. Church of Jesus Christ of Latter Day Saints	38.1	59.9	60.0	0.1
10. E. El Campo Rd	37.8	61.4	61.4	0.0
11. Brandy Ln	36.9	55.6	55.7	0.1
12. Qualwood Ln	35.8	64.8	64.8	0.0
13. Summit Station Rd	36.9	66.8	66.8	0.0
14. Pioneer St	43.8	62.0	62.1	0.1
15. Bar K Ln	46.3	70.1	70.1	0.0
16. Banyan Pl	50.5	67.7	67.8	0.1
17. Bennetta Dr	40.1	58.4	58.5	0.1
18. N. Bradley Rd	53.7	71.9	72.0	0.1

Table 4.13-15. Modeled SMVR Truck Route Noise Levels Compared to Measured Ambient Conditions

Receptor Number and Name	Modeled Truck Route Noise Level (Maximum Capacity of Trucks Per Day) (dBA) [1]	Measured Daytime Ambient (dBA Leq)	Future Noise Level (Ambient Plus Trucks) (dBA Leq)	Increase Over Ambient (dBA)
19. E. Betteravia Rd	63.2	73.1	73.5	0.4
20. Westgate Rd	58.8	69.6	70.0	0.4

Source: PG&E, 2021b – Table 3.12-9.
[1] Calculated truck noise levels presented in the June 30, 2021 Application, Table 3.12-9, were based on the instantaneous sound level of one truck passing near the noise receptor (Table 3.12-9, Note 1). Calculated truck noise levels have been revised to present a 1-hour Leq assuming a 15-second drive-by exposure (at the instantaneous sound level) from one truck. This assumes the maximum of two truck trips per day to the SMVR-SB site would not occur within the same hour.

As presented in Table 4.13-15, Proposed Project truck traffic would result in an increase of 0.4 dBA or less in the ambient noise levels, which is not perceptible (less than 3 dB). As the maximum noise level increase along the truck route to the SMVR-SB site would not be perceptible, noise would not exceed established standards for County of Santa Barbara and the City of Santa Maria; the impact is less than significant (Class III).

SMVR Operational Noise

The SMVR operational activity would include loading materials from trucks to railcars. As noted in Section 2.3.4.1, *Santa Maria Valley Railyard Modifications*, the equipment for this work may include:

- one temporary 400-ton electric gantry crane with generators
- two truck-mounted cranes
- two diesel-powered scissor lifts
- two diesel-powered reach lifts
- two diesel-powered forklifts
- railcar mover (need has yet to be determined)

The SMVR-SB site would be operated 24 hours per day, Monday through Friday.

As previously noted, the closest sensitive receptors are located approximately 1.3 miles from the SMVR-SB site within unincorporated Santa Barbara County (Santa Barbara County North Jail). The noise level of operations 1.3 miles from the SMVR-SB site is predicted to be 43.5 dBA, assuming no intervening structures between the construction activity and the sensitive receptors and eight of the above equipment operating simultaneously (see Appendix H). Operational noise levels would comply with both the Santa Barbara County Municipal Code Noise Restrictions and the daytime and nighttime criteria of the City of Santa Maria noise ordinance. The impact due to railyard operations noise at the SMVR-SB site is less than significant (Class III).

Trains - Pismo Beach and SMVR-SB Railyards

Demolition material transported to the railyards would be transferred onto rail cars for ultimate disposal. As a worst-case estimate it was assumed that one train per week at most would depart the facility (PG&E, 2021b).

The analysis for train noise follows the methodology provided by the US Department of Transportation, Federal Transit Authority (FTA). The methodology is described for commuter trains, but the main components of train noise are the number of diesel locomotives and rail cars, and the railyard trains would have both. The FTA methodology provides a reference sound level for diesel locomotives and rail cars. The calculation procedure involves inputting the number of diesel locomotives, the number of rail cars, the train speed, train throttle setting and number of trains per hour. The input data included two diesel locomotives, 70 rail cars, a nominal train speed of 30 miles per hour (mph), and a train throttle setting of 4 (settings range from 1 to 6) (PG&E, 2021c – Table 5.3.7-1). The input parameter used for number of trains per hour in the PG&E study was 0.1 train as an overly conservative value for one train per week (PG&E, 2021c – Table 5.3.7-1). To predict the hourly Leq noise level of a train event occurring during an hour, the input parameter for the number of trains per hour is one train.

Table 4.13-16 presents the calculated train hourly Leq noise levels at a 50-foot reference distance from the PBR site and at the nearby sensitive noise receptors. No sensitive noise receptors were identified in proximity to the SMVR-SB site.

Table 4.13-16. Calculated Train Noise Levels Near PBR

Location	Distance From Train Tracks	Train Noise Level (dBA Leq)	Existing Daytime Noise Levels (dBA Leq)
Reference Distance (50 Feet)	---	64.9	---
14. Vincente Court	1,100	38.1	53.5
15. Reef Court	500	44.9	58.8
16. Pismo Beach Handling Facility (Dell Court)	700	42.0	50.8
17. Judkins Middle School	1,400	36.0	50.8[1]
18. Price Canyon Road Residence	700	42.0	53.8[2]

Source: PG&E, 2021b – Table 3.12-10 – revised for one train per hour.
[1] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient condition estimated to be the same as Location 16.
[2] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient condition conservatively estimated to be 3 dBA higher than at Location 16 due to closer proximity of this receptor to traffic noise sources on Price Canyon Road.

As shown in Table 4.13-16, the average train noise levels are well below the existing daytime noise levels at all locations, even though the above calculations are conservatively estimated for trains travelling at 30 mph. Trains leaving the railyards would travel at much lower speeds as they depart, with concurrent lower noise levels. It is acknowledged that instantaneous train noise levels as trains pass each location would be greater than those shown here, but they are not expected to be different from noise levels generated by existing train traffic. The impact of train noise would be less than significant (Class III).

Phase 2

Phase 2 work includes the transport of remaining waste materials, import of topsoil, removal of facilities not needed to support the retained DCPP facilities, sealing the openings of the Intake Structure, completing the Discharge Structure restoration, and installation of storm water controls. This Phase 2 work would generally occur at the DCPP site and along the haul truck routes. No transport by rail would occur in Phase 2, unless the PBR site is used as a contingency site instead of transporting non-radiological and non-hazardous waste by barge (see Table 2-9).

DCPP Project Site

Demolition of the remaining DCPP structures and final site restoration requires construction equipment similar to that used in Phase 1 activities, including earthmoving equipment such as graders, dozers, loaders, and other equipment.

Noise expected to occur due to DCPP Phase 2 decommissioning activities depends on the amount of equipment required to complete the final site restoration and removal of the remaining structures. Structures remaining after Phase 1 decommissioning requiring demolition in Phase 2 include utilities, roads, and parking areas. The number of remaining structures in Phase 2 is a small proportion of what existed at the original facility; therefore, construction activities occurring during Phase 2 would be smaller in scope and scale than those that occur in Phase 1, with similar but less equipment required than estimated for Phase 1. As such, construction noise at the DCPP site is expected to be lower during Phase 2 than noise estimated for Phase 1. Phase 2 noise levels would also be in compliance with established standards (Class III).

Railyard Modifications, Truck Haul Routes, and Trains

Railyard modifications would be completed in Phase 1 and no additional modifications would be required to support Phase 2. Off-site transport of demolition waste resulting from Phase 2 activities would be reduced by about 70 percent compared to Phase 1; however, there would be an additional 1,760 truck trips to import of topsoil. These additional truck trips would not exceed the assumed daily maximum of 100 truck round trips, as they would be expected to occur over many years. Additionally, if the PBR site is used as a contingency site instead of transporting non-radiological and non-hazardous waste by barge, up to 42 truck trips would occur between the DCPP site and PBR during Phase 2 (see Table 2-9). These additional truck trips would not change the maximum number of trucks per day that could go to the PBR site as analyzed for Phase 1. Furthermore, the additional railcars and associated trains that may be required to transport waste materials from PBR out-of-state would not change the basis for the train noise analysis completed for Phase 1. As the impact in Phase 1 is less than significant, the Phase 2 impact due to Phase 2 truck hauling would also be less than significant (Class III).

Railyard Operations

Under the Proposed Project (not using PBR as a contingency site), all waste transport to the railyards would be completed in Phase 1. However, if the PBR site is used as a contingency site, up to 42 truck trips would occur between the DCPP site and PBR during Phase 2 resulting in extended operations at PBR. The same equipment at PBR would be utilized such that impacts

would be potentially significant; however, with implementation of MM NOI-1 (*Noise Barrier at Pismo Beach Railyard*) the impact would be reduced to less than significant (Class II).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. The new indoor Firing Range replaces the existing outdoor Firing Range, thereby greatly reducing the noise produced at the DCPP site. The remaining DCPP operations would produce less noise than current operations due to the reduced activity levels and staffing. Noise levels at the nearest sensitive receptor would be as low or lower than for decommissioning activities and therefore impacts would be less than significant (Class III).

Future Actions. Marina improvement and operations are considered as possible future actions. Construction improvements and operations for small vessel launching and recreation would occur more than 3 miles from any sensitive receptor (Coon Creek Beach) and noise and vibration levels would be as low or lower than for current operations or for the decommissioning activities. Therefore, impacts would be less than significant (Class III).

Mitigation Measures for Impact NOI-1.

NOI-1 **Noise Barrier at Pismo Beach Railyard.** Prior to implementation of modifications at Pismo Beach Railyard (PBR) if utilized for shipment of non-hazardous and non-radiological waste from Diablo Canyon Power Plant, the Applicant or its designee shall install a temporary noise barrier in proximity and south of the loading operations at the PBR site. The noise barrier shall be constructed of solid material with a minimum surface density of 2 pounds per square foot, such as ¾-inch plywood. The final noise barrier design including height, location, orientation, and locations of the noise sources and receptors, shall be approved by a qualified acoustical consultant. The noise barrier shall provide at least 7.5 dB of noise reduction or otherwise provide a reduction level such that operations meet the City of Pismo Beach Noise Ordinance residential daytime exterior noise limit of 55 dBA at the closest residences to the PBR site.

Design plans for the noise barrier at PBR shall be submitted to the County Department of Planning and Building and City of Pismo Beach for review and approval at least 90 days prior to use of the PBR site. Signs shall be posted at or near the PBR site in publicly accessible areas, with contact information provided for reporting any noise complaints (phone number and/or email). In the event noise complaints are received, noise monitoring shall be performed at the closest residence and at the property generating the complaint to confirm the City of Pismo Beach's daytime exterior noise limit is being met. The Applicant or its designee shall provide documentation to the County and to the City to show conformance. If noise levels exceed the City's threshold, the Applicant or its designee shall stop work and implement additional noise barrier protection, such as portable noise shields or installation of a thicker noise barrier. Sound levels shall be measured to confirm conformance.

Impact NOI-2: Create a substantial permanent or temporary increase in ambient noise levels (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

Decommissioning would entail removal of the majority of the DCPP facility, requiring the use of construction equipment and transportation of demolition material. As discussed for Impact NOI-1, existing ambient noise levels at the DCPP site range from 50 dB to 80 dB and noise levels generated by proposed equipment would generate noise levels ranging from 73 dB to 90 dB at 50 feet (reference point). It was determined that decommissioning activities may periodically exceed ambient noise levels within the DCPP site, but there are no nearby sensitive noise receptors that would be adversely affected. The closest receptor is 3 miles away with conservatively predicted construction noise at this location of approximately 40 dBA (Coon Creek Beach). This noise level would be at or below ambient noise levels for a beach (e.g., similar noise levels as quiet suburban nighttime or library per Figure 4.13-1). As such, temporary changes in ambient noise levels from Phase 1 DCPP construction would be less than significant (Class III).

Railyard Modifications and Truck Haul Routes

Railyard Modifications

As discussed for Impact NOI-1, construction noise levels at PBR are expected to increase the existing measured daytime sound level at the nearest noise sensitive receptor on Dell Court by approximately 8.0 dBA. Noise level increases at the remaining sensitive receptor locations would be 4.0 dBA or less. As discussed in Section 4.13.1, *Environmental Setting*, a change of 3 dB is barely noticeable and a change of 5 dB is noticeable. As such, this temporary noise impact would be noticeable at the Dell Court residence and would be mitigated to less than 5 dBA (see Appendix H) through implementation of MM NOI-1 (*Noise Barrier at Pismo Beach Railyard*), which requires installation of a temporary noise barrier at the PBR site (Class II).

The SMVR-SB predicted construction noise level at the nearest sensitive receptor is 41 dBA, much less than the measured ambient noise levels in the vicinity resulting in a less-than-significant impact (Class III).

Truck Haul Routes (all railyards)

As provided in Table 4.13-13 and Table 4.13-15, average truck traffic noise levels generated by the Proposed Project are shown to be well below existing measured ambient conditions at all locations. Increases in noise (existing conditions plus truck traffic) are shown to be 1.1 dBA or less. The noise increase due to truck hauling would not be perceptible (less than 3 dBA) and therefore results in a less-than-significant impact (Class III).

Railyard Operations

PBR. Table 4.13-17 presents the calculated noise levels at PBR, accounting for topographical barriers, and compares them to the ambient noise levels. As discussed in Section 4.13.1, *Environmental Setting*, a change of 3 dB is barely noticeable and a change of 5 dB is noticeable.

As shown in Table 4.13-17, operational noise levels at PBR would not be noticeable for most nearby residences, except for Dell Court. Implementation of MM NOI-1 (*Noise Barrier at Pismo Beach Railyard*), which requires installation of a temporary noise barrier at the PBR site, would reduce the change in ambient noise level to less than 5 dBA (see Appendix H) such that long-term operational noise impacts would be less than significant (Class II).

Table 4.13-17. Calculated PBR Operational Noise Levels Compared to Ambient Noise Levels

Receptor Number	Calculated Operational Noise Level (dBA Leq)	Measured Daytime Ambient (dBA Leq)	Total Noise Levels (dBA Leq)	Change in Ambient Noise Level (dBA Leq)
14. Vincente Court	55.0	53.5	57.3	3.8
15. Reef Court/Coral Court [3]	54.5	58.8	60.2	1.4
16. Pismo Beach Railyard (Dell Court)	59.4	50.8	**60.0**	**9.2**
17. Judkins Middle School	37.7	50.8 [1]	51.0	0.2
18. Price Canyon Road Residence	54.3	53.8 [2]	57.1	3.8

Source: Refer to calculations in EIR Appendix H.
[1] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient conditions estimated to be the same as Location 16.
[2] Ambient noise measurements were not conducted at this location due to inaccessibility. Ambient conditions conservatively estimated to be 3 dBA higher than at Location 16 due to closer proximity of this receptor to traffic noise sources on Price Canyon Road.
[3] The resident on Coral Court is closer to the construction noise source than the resident on Reef Court; assume same ambient noise level as Reef Court.

SMVR-SB. The SMVR-SB predicted operational noise level at the nearest sensitive receptor is 43.5 dBA, much less than the measured ambient noise levels in the vicinity resulting in a less-than-significant impact (Class III).

Trains

As provided in Table 4.13-16 the average train noise levels are shown to be well below existing noise levels at all locations based on conservative assumptions, such as trains travelling at 30 mph. Trains leaving the railyards would travel at much lower speeds as they depart, with concurrent lower noise levels. Instantaneous train noise levels would be greater than the values provided in Table 4.13-16 as the train passes a given location but are not expected to be different from noise levels generated by existing train traffic. Therefore, train noise would not result in noticeable temporary or permanent changes in ambient noise levels and the impact would be less than significant (Class III).

Phase 2

DCPP Project Site

As discussed for Impact NOI-1, Phase 2 decommissioning activities at the DCPP site would be smaller in scope and scale than those that occur in Phase 1, with similar but less equipment. As such construction noise at the DCPP site would be lower during Phase 2. Noise levels were conservatively predicted for Phase 1 to be approximately 40 dBA at Coon Creek Beach, which is at or below ambient noise levels for a beach (similar to quiet suburban nighttime or library per Figure

4.13-1). As such, temporary changes in ambient noise levels from Phase 2 DCPP construction would be less than significant (Class III).

Railyard Modifications, Truck Haul Routes, and Trains

Railyard modifications would be completed in Phase 1 and do not occur in Phase 2. Truck hauling of demolition materials would continue in Phase 2 at levels assumed in the modeling of Phase 1 or below. As shown in Tables 4.13-13 and 4.13-4, the increase in noise from truck hauling would be 1.1 dBA or less, which would not be perceptible. Furthermore, the additional railcars and associated trains that may be required to transport waste materials from PBR out-of-state would not change the basis for the train noise analysis completed for Phase 1, which resulted in noise levels substantially below ambient noise levels. Therefore, the change in ambient noise levels from truck hauling and train use would be less than significant (Class III).

Railyard Operations

PBR. Railyard operations would cease during Phase 2, unless the PBR site is used to ship non-hazardous and non-radiological materials by rail as opposed to by barge (contingency option). The same equipment at PBR would be utilized which result in a predicted noise level of 59.4 dBA Leq at the Dell Court residence (see Table 4.13-17). MM NOI-1 (*Noise Barrier at Pismo Beach Railyard*) includes a temporary noise barrier to reduce the operational noise level to 51.9 dBA. With the ambient noise level estimated at 50.8 dBA at this location, the total noise level is predicted to be 54.4 dBA, a 3.6 dBA increase. This would not result in a perceptible increase. All other nearby sensitive receptors to PBR would experience noise level increases of less than 5 dBA Leq without mitigation. Therefore, the change in ambient noise levels due to PBR operations would be less than significant with mitigation (Class II).

SMVR-SB. No waste shipments to the SMVR-SB site would occur during Phase 2; therefore, no operational noise impacts from railyard operations would occur.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. The new indoor Firing Range replaces the existing outdoor Firing Range, thereby greatly reducing the noise produced at the DCPP site. The remaining DCPP operations would produce less noise than current operations due to the reduced activity levels and staffing. Noise levels at the nearest sensitive receptor would be as low or lower than for current operations or for decommissioning activities and therefore impacts would be less than significant (Class III).

Future Actions. Marina improvement and operations are considered as possible future actions. Construction improvements and operations for small vessel launching and recreation would occur more than 3 miles from any sensitive receptor (Coon Creek Beach) and noise and vibration levels would be as low or lower than for current operations or for the decommissioning activities/ Therefore, impacts would be less than significant (Class III).

Mitigation Measures for Impact NOI-2.

NOI-1 Noise Barrier at Pismo Beach Railyard

Impact NOI-3: Expose persons to or generate excessive ground borne vibration or ground borne noise (Class III: Less than Significant).

Phase 1

DCPP Site

Decommissioning of the DCPP site would entail removal of the bulk of the DCPP facility, requiring the use of construction equipment and the transportation of demolition material by truck or barge. Construction equipment and haul trucks are the vibration sources with potential for vibration impacts. Caltrans guidance on impacts from construction and transportation vibration are provided in Table 4.13-10, which indicates that vibration is distinctly perceptible with a PPV of 0.24 in/sec. Furthermore, structural damage would not occur with a PPV less than 2.0 in/sec (see Table 4.13-11, industrial buildings).

Vibration source levels (PPV at 25 feet) for some of the construction equipment expected to be utilized at DCPP have been defined by Caltrans and FTA, as follows (Caltrans, 2020; FTA, 2018):

- Pile driver – 1.5 in/sec
- Vibratory roller – 0.21 in/sec
- Hoe ram, large bulldozer, caisson drilling – 0.089 in/sec
- Loaded trucks – 0.076 in/sec
- Jackhammer – 0.035 in/sec
- Small bulldozer – 0.001 in/sec

While workers at the DCPP site may react to vibrations levels from pile driving, which are above the distinctly perceptible threshold for human response of 0.24 in/sec PPV, pile driving activities are limited to the Discharge Structure removal activities where buildings in the general area are also being removed. Furthermore, DCPP workers are not considered sensitive receptors, and the closest sensitive receptors are 3 miles away (Coon Creek Beach). With respect to building damage, most construction activities would occur in areas where buildings are being removed, with the exception of the new owner-controlled area where the new Security Building, Firing Range, and Greater Than Class C (GTCC) Waste Storage Facility would be constructed. Existing structures in this area are industrial buildings and all equipment is expected to have vibration levels below 2.0 in/sec PPV. As such, groundborne vibration impacts at the DCPP site would be less than significant (Class III).

Railyard Modifications

Modifications to the PBR and SMVR-SB railyards would generate groundborne vibration. Conservatively assuming the same four pieces of construction equipment (a truck, forklift, spike driver, generator) are operating simultaneously in essentially the same area at the SMVR-SB railyard, the predicted vibration level is 0.244 in/sec PPV at 25 feet (see Appendix H). The closest receptor to any of these railyards is 625 feet away, and the predicted vibration level at this distance is 0.00195 in/sec PPV (see Appendix H). This value is well below the barely perceptible human

response level of 0.035 in/sec PPV (see Table 4.13-10) and well below the structural damage criterion of 0.5 in/sec PPV for residential structures (see Table 4.13-11). Converting this predicted vibration level to groundborne noise yields a noise level of less than 20 dBA (see Appendix H), which is well below existing ambient noise levels. Therefore, the impact due to construction vibration at the railyards is less than significant (Class III).

Truck Haul Routes and Trains

Truck traffic generates localized groundborne vibrations. With a reference vibration level of 0.076 in/sec PPV at 25 feet and since most structures are located a minimum of 50 feet from the passing trucks, the vibration level is predicted to be 0.027 in/sec PPV (see Appendix H). This predicted vibration level would not be distinctly perceptible (less than 0.24 in/sec PPV) and may not even be barely perceptible (begins at 0.035 in/sec PPV) if the structure is closer than 50 feet (see Table 4.13-10). The vibration would also not cause any structural damage (less than 0.5 in/sec PPV – see Table 4.13-11). The predicted groundborne noise produced by the predicted vibration level of 0.027 in/sec is 47 dBA (see Appendix H), which is well below existing ambient noise levels. The impact due to truck hauling vibration is less than significant (Class III).

Trains hauling materials out of state would also create vibrations; however, these would be the same or similar to other trains already utilizing existing railway infrastructure, with railcars most likely joining existing trains. As such, there would be no change from existing conditions (No Impact).

Railyard Operations

Demolition material transported to the railyards (PBR and/or SMVR-SB) would be transferred onto rail cars for ultimate disposal out-of-state. A gantry system and other equipment listed previously would be used to load trucks directly to a waiting rail car. As a worst case estimate one train is expected to depart the facility at most once every 7 days.

Conservatively assuming all the proposed equipment is operating simultaneously at each of the railyards, the predicted vibration level would be 0.262 in/sec PPV at 25 feet (see Appendix H). The closest receptor to any of these railyards is 625 feet, and the predicted vibration level at this distance is 0.0021 in/sec PPV (see Appendix H). This vibration level is well below the barely perceptible level of 0.035 in/sec PPV and well below the structural damage criterion of 0.5 in/sec PPV. Converting this predicted vibration level to groundborne noise yields a noise level of less than 20 dBA (see Appendix H), which is well below existing ambient noise levels. The impact due to vibration from railyard operations is less than significant (Class III).

Phase 2

Work at the DCPP site and at the railyards would either be the same or less than Phase 1. As all vibration impacts are less than significant for Phase 1, they would also be less than significant for Phase 2 (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing

Range, and Storage Buildings. The new indoor Firing Range replaces the existing outdoor Firing Range, thereby greatly reducing the noise produced at the DCPP site. The remaining DCPP operations would produce less noise than current operations due to the reduced activity levels and staffing. Noise levels at the nearest sensitive receptor would be as low or lower than for current operations or for decommissioning activities and therefore impacts would be less than significant (Class III).

Future Actions. Marina improvement and operations are considered as possible future actions. Construction improvements and operations for small vessel launching and recreation would occur more than 3 miles from any sensitive receptor (Coon Creek Beach) and noise and vibration levels would be as low or lower than for current operations or for the decommissioning activities. Therefore, impacts would be less than significant (Class III).

Mitigation Measures for Impact NOI-3. No mitigation measures are required.

4.13.5 Cumulative Impact Analysis

Geographic Extent Context

With regard to noise, cumulative impacts are associated with site-specific noise of the Proposed Project combining with site-specific noise of cumulative projects within approximately 0.25 mile of each other, as well as the potential for combined increases in traffic noise along common local routes (highways and freeways are not included as they handle extremely large volumes of traffic on a regular basis). Ground vibrations dissipate more rapidly than noise levels, limiting the geographic extent of ground vibration cumulative impacts to the immediate vicinity of the vibration source. Table 3-1 indicates there are 29 cumulative projects within the County of San Luis Obispo, County of Santa Barbara, and City of Santa Maria, including the Orano System ISFSI modifications that would be occurring at the DCPP site.

Cumulative projects that are considered for potential cumulative impacts related to noise would include projects that could generate construction or operational noise at the same time as the Proposed Project and are located at or near the DCPP site, railyards, and truck routes, as follows:

Diablo Canyon Power Plant

- Orano System ISFISI Modifications (#1)
- Communications Facility (#2)
- Avila Beach Drive at Highway 101 Interchange (#3)
- Flying Flags Campground (#4)
- Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6)

Pismo Beach Railyard

- Signal at Bello and Price Canyon Road (#7)
- Public Safety Center (#9)
- Price Street Sidewalk Pavers (#11)
- Realign Frady Lane (#12)
- Storm Drain on Wadsworth from Bello to Judkins Middle School (#13)

In Vicinity of Truck Route (City of Santa Maria)

- Westgate Marketplace (#14)
- SerraMonte Townhomes (#15)
- Workforce Dormitories (#16)

SMVR-SB – Betteravia Industrial Park (County of Santa Barbara)

- Highway 101 – Betteravia Road Interchange (#17)

Cumulative Impact Analysis

Phase 1

The Orano System ISFSI Modifications (#1) would occur at the DCPP site at the same time as the Proposed Project Phase 1 work. While these activities would combine to create a cumulative noise impact, on-site activities are 3 miles away from any sensitive receptors (Coon Creek Beach) and therefore would not create a cumulatively considerable noise impact. The additional 384 truck trips would be required over the course of 10 months (Stantec, 2022). This would amount to only a few truck trips per day, which would readily fall within the 100 truck round trips per day assumed for the Proposed Project noise analysis. As such no cumulatively considerable noise impacts would occur.

The closest project to the DCPP site (#2) is a communications facility where the application is on hold. As such it's unknown when or if this project would occur at the same time as DCPP decommissioning activities. In addition, the project would be small in scale having a limited contributions to noise and traffic in the area, and would be approximately 6 miles away and buffered by topography limiting the ability for noise to combine.

The Avila Beach Drive at Highway 101 Interchange (#3), Flying Flags Campground (#4), and Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6) are all located many miles from the DCPP site but could utilize the same roadways in Avila Beach.

For the Avila Beach Drive at Highway 101 Interchange (#3), noise related to haul trucks is predicted to be approximately 53.4 dBA at this location where the measured ambient noise level was 59.4 dBA (see Table 4.13-13 – Receptor #6, Avila Beach Drive / Cabrillo Highway). This truck haul noise level when combined with the Proposed Project, which was shown to result in minimal increases in ambient noise levels (see Table 4.13-13, where maximum contribution is 1.0 dBA), would not be cumulatively considerable compared with the road construction noise. Furthermore, with construction scheduled to begin mid-2023 and conclude mid-2025, truck traffic related to the DCPP Project may be rerouted to avoid this interchange.

For the Flying Flags Campground (#4), the schedule is unknown, and the project site is located many miles from the DCPP site. Noise related to haul trucks is predicted to be approximately 37.9 dBA near this location where the measured ambient noise level was 61.8 dBA (see Table 4.13-13 – Receptor #1, Diablo Canyon Road/Avila Beach Drive). This truck haul noise level when combined with the Flying Flags Campground (#4) would not be cumulatively considerable.

For the Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6), the schedule is unknown, and the project site is located many miles from the DCPP site. This

cumulative project is located close to Receptor #2 (see Table 4.13-13 – San Luis Bay Inn [Avila Beach Drive]), approximately 230 feet north of Avila Beach Drive. Noise related to haul trucks is predicted to be approximately 5 dBA lower than the noise level at Receptor #2 or 39.5 dBA near this location where the measured ambient noise level is estimated to be 10 dBA lower than Receptor #2 or 52.2 dBA (see Table 4.13-13 – San Luis Bay Inn [Avila Beach Drive]). This truck haul noise level when combined with the Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6) would not be cumulatively considerable.

Several cumulative projects are located in the vicinity of the PBR site, including Signal at Bello and Price Canyon Road (#7), Public Safety Center (#9), Price Street Sidewalk Pavers (#11), Realign Frady Lane (#12), and Storm Drain on Wadsworth from Bello to Judkins Middle School (#13). Installation of a signal at Bello Street and Price Canyon Road (#6) would be a relatively small construction project and may not occur concurrently with the Proposed Project. The new fire station on Bellow Street/Wadsworth (#9) is planned for 2023 and therefore would occur before Phase 1 activities begin, such that no cumulative noise impacts would occur. Operations of a fire station in the area may result in increased ambient noise levels but are generally characterized as instantaneous and infrequent from use of sirens with only a few vehicles being in operation at a single fire station. The installation of pavers in downtown sidewalks along Price Street (#11) would occur in 2026, concurrent with Phase 1 activities. This construction project may result in increased ambient noise levels but would be small-scale and on the other side of the freeway such that no cumulative impact is anticipated.

The realignment of Frady Lane (#12) would occur in 2025, so could be concurrent with use of the PBR site; however, from the standpoint of truck traffic, only the freeway offramp would be in common as access to Frady Lane would be via Hinds Avenue to Cabrillo Highway to Frady Lane. This project is located about 0.2 mile to the south of the PBR site and may occur concurrently with PBR construction modifications. Concurrent construction with the Proposed Project would create a potentially significant impact due to a substantial temporary increase in ambient noise levels at several of the surrounding sensitive receptors. This impact can be mitigated with implementation of MM NOI-2 (*Coordinate PBR and Frady Lane Realignment Construction Schedules*), which requires PG&E to coordinate with the City of Pismo Beach to stagger construction to avoid concurrent construction with the Frady Lane realignment project. PBR construction could potentially be completed in as little as one month (see Section 2.3.4, *Modifications and Operations at Rail Facilities*) and therefore concurrent construction can be avoided to mitigate this impact. As such the cumulative contribution would be minimal (Class II).

Storm drain improvements along Bello Street to Judkins Middle School (#13) would occur in 2025, so could be concurrent with use of the PBR site. This work would occur more than 0.3 mile west of the PBR site and would be buffered by topography and intervening structures. The truck route would only align for a short distance between the US-101 offramp and Bello Street, at which point trucks heading to PBR would turn east (right) on Bello Street and truck for the storm drain improvements would turn northwest (left). Residences in this area may experience slightly more truck noise; however, with only five trucks per day (maximum) visiting the PBR site, the likelihood of them traveling by at the same time is very low and noise levels contributed by the Proposed Project from truck traffic results in only a 0.3 dBA change (see Table 4.13-14 – Receptor #18, Price Canyon Road Residence) such that it would not be cumulatively considerable.

The Westgate Marketplace (#14), SerraMonte Townhome (#15), Workforce Dormitories (#16) and Highway 101 – Betteravia Road Interchange (#17) are in proximity of the SMVR-SB site or in the vicinity of the truck route. The construction schedules for these projects are all unknown at this time. Each of these projects would construct facilities that generate operational traffic or work to improve a Highway 101 interchange, which when combined with the Proposed Project traffic could result in cumulative impacts. However, considering the Proposed Project would have a maximum of two truck trips per day (maximum) visiting the SMVR-SB site, the likelihood of them traveling by at the same time is very low and noise levels contributed by the Proposed Project from truck traffic results in only a 0.2 dBA to 0.4 dBA change (see Table 4.13-15 – Receptors #20-22, W. Stowell Road, La Brea Avenue, E. Betteravia Road) such that it would not be cumulatively considerable.

Phase 2

Phase 2 occurs between 2032 and 2039, such that the cumulative projects listed in Table 3-1 would be constructed and in operation. As such the only cumulative impact would be associated with trucks. Trucks have been shown to result in no more than 1.1 dBA increase in ambient noise levels (see Table 4.13-14), which would not be perceptible and therefore not cumulatively considerable.

Post-Decommissioning Operations

New Facility Operations. Operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings would produce greatly reduced noise levels at the DCPP site. As such, noise levels at the nearest sensitive receptor would be as low or lower than for current operations or for decommissioning activities. Project noise levels would not be cumulatively considerable.

Future Actions. Construction improvements at the Marina and operations for small vessel launching and recreation would occur more than 3 miles from any sensitive receptor (Coon Creek Beach) and noise and vibration levels would be as low or lower than for current operations. As such, Project noise levels would not be cumulatively considerable.

Mitigation Measures for Cumulative Noise Impacts.

NOI-2 **Coordinate PBR and Frady Lane Realignment Construction Schedules.** The Applicant or its designee shall coordinate with the City of Pismo Beach at least 90 days prior to initiating construction at PBR. Construction at PBR shall not occur simultaneously with construction of the Frady Lane realignment project within the City of Pismo Beach. Documentation of coordination efforts, PBR construction schedule, and Frady Lane construction schedule shall be submitted to the County for review and concurrence, prior to initiating construction at PBR.

4.13.6 Summary of Significance Findings

Table 4.13-18 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project.

Table 4.13-18. Summary of Impacts and Mitigation Measures – Noise

Impact Statement	Impact Significance Class				Mitigation Measures
	Phase 1		Phase 2	Post-Decom	
	DCPP	*PBR/SB*	*DCPP*	*Ops/Marina*	
NOI-1: Expose sensitive receptors to noise levels in excess of established standards	III	II/III	III	III/III	**NOI-1:** Noise Barrier at Pismo Beach Railyard
NOI-2: Create a substantial permanent or temporary increase in ambient noise levels	III	II/III	III	III/III	**NOI-1** (see above)
NOI-3: Expose persons to or generate excessive ground borne vibration or ground borne noise	III	III/III	III	III/III	None required
Cumulative Impact	II		Not cumulatively considerable		**NOI-2:** Coordinate PBR and Frady Lane Realign-ment Construction Schedules

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long-Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

4.14 Public Services and Utilities

This section describes existing public services and utilities in the Project area, identifies applicable regional and local rules and regulations regarding public services and utilities, provides significance thresholds, assesses the Proposed Project's impacts to public services and utilities and their significance, and recommends measures to avoid or substantially reduce any effects found to be potentially significant.

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and considered in preparing this section:

- Assess public safety impacts to the Pismo Beach Police Department and Fire Station 64, located in the 1000 block of Bello Street, and to emergency response activities given the high number of tourists visiting the area.
- Address effects of closing the DCPP and preventing expansion of its existing desalination plant on water supplies.

4.14.1 Environmental Setting

The Proposed Project includes the Diablo Canyon Power Plant (DCPP), the Pismo Beach Railyard (PBR), and Santa Maria Valley Railyard – Betteravia Industrial Park (SMVR-SB). The 750-acre onshore portion of the DCPP site has no permanent residents. The nearest residential areas are in Avila Beach and Los Osos, which are located approximately 7 miles southeast and approximately 8 miles north of the DCPP site, respectively.

PBR is an approximately 25.5-acre site located approximately 0.3 mile from US-101 at 800 Price Canyon Road within the City of Pismo Beach. The PBR facility has undeveloped land to the north with a scattering of residences along Price Canyon Road; a Union Pacific Railroad line and open space to the east, with residential development further east; the City of Pismo Beach's wastewater treatment plant and public sports complex to the south; residences to the southwest and west; and a middle school, church, police station, and fire station to the west (west of Price Canyon Road). The nearest residential home is approximately 300 feet southwest of the PBR.

The SMVR-SB site is located approximately 1.6 miles west of the City of Santa Maria in the Santa Barbara County at 2820 W. Betteravia Road. The site is approximately 28.4 acres, bordered to the north by Betteravia Road and agricultural processing uses (on the north side of Betteravia Road), and on the west, south, and east by agricultural fields.

4.14.1.1 Public Services

DCPP Facility Security and Police Services. As described in Section 2.3.2, *Site Security Modifications*, existing site security infrastructure at the DCPP includes various structures, systems, and components such as the Personnel Access Facility, fences, and gates. Existing security consists of personnel stationed at Avila Gate 24 hours a day, 7 days a week, and armed security throughout the plant site. The DCPP has sufficient security personnel to meet all Nuclear Regulatory Commis-

sion (NRC)-mandated security requirements in accordance with Title 10 of the Code of Federal Regulations, Part 73.55. Additionally, as indicated in Table 2-2, *Ongoing and Proposed Plans, Programs, and Reports*, an NRC-approved Emergency Plan would be implemented throughout the DCPP Decommissioning Project. The Emergency Plan includes existing requirements for maintaining the capability to obtain off-site agency support for DCPP emergencies. New security infrastructure is required as the site changes during decommissioning activities, and includes a new security building, new security area (revised Owner-Controlled Area [OCA], see Figure 2-17), upgraded fencing, defensive positions, cameras, lighting, roads, and access paths and sidewalks (PG&E, 2021a).

The San Luis Obispo County Sheriff's Department, the Santa Barbara County Sheriff's Department, California Highway Patrol (CHP), US Coast Guard, and other police stations within San Luis Obispo County and Santa Barbara County also serve the Project areas. PG&E also has a letter of agreement with the CHP to provide aid during an emergency at the DCPP (PG&E, 2021a). The San Luis Obispo County Sheriff's Office has a letter of agreement with PG&E regarding providing security support at the DCPP. The specifics of these agreements are confidential. The CHP office in San Luis Obispo is located at 675 California Blvd, San Luis Obispo, approximately 20 miles southwest from the DCPP. The closest Sheriff's Department station to the DCPP is the San Luis Obispo Coast Station (2099 10th Street, Los Osos), located approximately 25 miles (driving distance) north of the DCPP site. Sheriff's Office patrol personnel are deployed from this station which covers Avila Beach to San Simeon, and from the Los Padres mountain range to the Pacific Ocean, and includes the DCPP site (San Luis Obispo County Sheriff's Office, 2021). The US Coast Guard provides both maritime law enforcement and response.

The closest police station to the PBR is the City of Pismo Beach Police Department (1000 Bello Street, Pismo Beach), located approximately 0.4 mile southwest of the PBR site (Pismo Beach, 2021). The closest Sheriff's Office to the SMVR-SB site is the Santa Maria Sheriff's Station (812-A W. Foster Road, Santa Maria), located approximately 8 miles southeast of the SMVR-SB site (Santa Barbara County Sheriff's Office, 2021).

Fire Protection Services. The Diablo Canyon Fire Department (DCFD), which is currently staffed and operated by PG&E, consists of three crews with a minimum of five personnel each and provides the primary fire protection to the DCPP site. According to the San Luis Obispo County Fire Consolidated Fire Protection Strategic Plan, the DCFD was established to address the County's extended response time (over 15 minutes) due to the DCPP site's remote location (CAL FIRE/San Luis Obispo County Fire, 2012). The County of San Luis Obispo contracts with CAL FIRE which functions as the County's Fire Department (hereinafter referred to as "CAL FIRE/County Fire") to provide fire protection and emergency response services. As described in Table 2-2, *Ongoing and Proposed Plans, Programs, and Reports*, the existing Operational Plan provides for the unified response between CAL FIRE/County Fire and the DCFD during a fire incident at the DCPP. The Operational Plan approved by both PG&E and CAL FIRE/County Fire, sometimes referred to as a Memorandum of Understanding (MOU) in recognition of the joint agreement, is required to be updated periodically.

The DCPP has a fire alarm system and existing site procedures covered by the Operational Plan for emergency fire response. Through the terms of the Operational Plan, CAL FIRE/County Fire

provides backup fire protection and emergency response services if the DCFD requires additional assistance. Fire protection services needs at DCPP would change once all spent nuclear fuel (SNF) has been moved to the Independent Spent Fuel Storage Installation (ISFSI) (i.e., expected to occur from approximately 2025 through 2029). PG&E proposes to amend the Operational Plan to specify the terms of the transition process for fire protection services. Additionally, as noted in Table 2-2 a Transition Plan would be implemented to provide for transitioning fire protection services from the DCFD to the CAL FIRE/County Fire in a manner agreeable to both entities. Section 2.3.23, *Site Conditions at End of Phase 1*, describes the proposed transition of fire protection services at the DCPP when all SNF has been moved to the ISFSI and all Greater than Class C (GTCC) waste has been moved to the new GTCC Waste Storage Facility. Some DCFD personnel would remain on site for a period of time during the transfer of SNF to the ISFSI to provide fire protection support.

The closest CAL FIRE/County Fire station to the DCPP site is the Avila Valley Fire Station 62, located in Avila Valley at 1551 Sparrow Street, with an estimated 17-minute response time from the station to the power plant portion of the DCPP site (PG&E, 2021b). The Avila Valley Fire Station 62 is staffed with two permanent employees, one Fire Apparatus Engineer and a Fire Captain, and has one Type-1 fire engine and a Personal Watercraft for water rescues (San Luis Obispo County Fire Department, 2022a).

CAL FIRE/County Fire also provides fire protection services for the City of Pismo Beach. Pismo Beach Fire Station 64 (990 Bello Street, Pismo Beach) is the closest station to the PBR, located approximately 0.38 miles southwest. This fire station employs a full-time staff including a battalion chief, three fire captains, a fire inspector, six fire apparatus engineers, and an administrative assistant, (San Luis Obispo County Fire Department, 2022b; CAL FIRE/San Luis Obispo County Fire, 2012). This fire station provides fire/rescue, ocean lifeguards and Junior Lifeguard programs.

Santa Barbara County Fire Department provides fire protection services for Santa Barbara County. Santa Barbara County Fire Station 21 (335 Union Avenue, Orcutt) is the closest Santa Barbara County station to the SMVR-SB, approximately 5.3 miles southeast, and is staffed with three permanent personnel.

Emergency Medical Services. The following hospitals in the counties of San Luis Obispo and Santa Barbara provide medical services such as surgery, emergency, laboratory, and special medical care and testing (PG&E, 2021a):

- Arroyo Grande Community Hospital (345 S. Halcyon Road, Arroyo Grande)
- French Hospital Medical Center (1911 Johnson Avenue, San Luis Obispo)
- Sierra Vista Regional Medical Center (1010 Murray Avenue, San Luis Obispo)
- Twin Cities Community Hospital (1100 Las Tablas Road, Templeton)
- Lompoc Valley Medical Center (1515 E. Ocean Avenue, Lompoc)
- Marian Regional Medical Center (1400 E. Church Street, Santa Maria)
- Cottage Rehabilitation Hospital (3415 De La Vina Street, Santa Barbara)
- Santa Barbara Cottage Hospital (400 W. Pueblo Street, Santa Barbara)
- Santa Ynez Valley Cottage Hospital (2050 Viborg Road, Solvang)

PG&E has an agreement with French Hospital Medical Center in San Luis Obispo (located approximately 18 miles northeast of the DCPP) to handle both radiological and non-radiological injuries at the DCPP site. PG&E also has agreements with several private ambulance companies within San Luis Obispo County that would provide ambulance services during an emergency.

Emergency medical services that would respond to the PBR would likely be provided by Arroyo Grande Community Hospital, which is the nearest hospital to the PBR, approximately 3.3 miles southeast. Marian Regional Medical Center is the closest hospital to the SMVR-SB site and is located approximately 6.4 miles northeast of the site, respectively (PG&E, 2021a).

Schools. DCPP is within the San Luis Coastal Unified School District, PBR is within the Lucia Mar Unified School District, and SMVR-SB is located within the Santa Maria Joint Union High School District. These districts serve their respective local communities. Table 4.14-1 lists the schools within the counties of San Luis Obispo and Santa Barbara including the name, location of the school, and distance from the nearest Project site (DCPP, PBR, or SMVR-SB).

Table 4.14-1. Schools Serving the Project Area

School	Address	Approximate Distance from Closest Project Site
San Luis Coastal Unified School District		
Baywood Elementary	1330 9th Street, Los Osos	7.8 miles north of DCPP
Bishop's Peak Elementary	451 Jaycee Drive, San Luis Obispo	11.2 miles northeast of DCPP
C.L. Smith Elementary	1375 Balboa Street, San Luis Obispo	8.3 miles northwest of PBR
Del Mar Elementary	501 Sequoia Street, Morro Bay	12.4 miles north of DCPP
Hawthorne Elementary	2125 Story Street, San Luis Obispo	8.3 miles north of PBR
Laguna Middle School	11050 Los Osos Valley Road, San Luis Obispo	8.5 miles northwest of PBR
Los Osos Middle School	1555 El Moro Street, Los Osos	7.9 miles northeast of DCPP
Los Ranchos Elementary	5785 Los Ranchos Road, San Luis Obispo	4.9 miles northeast of PBR
Monarch Grove Elementary	348 Los Osos Valley Road, Los Osos	7 miles north of DCPP
Morro Bay High School	235 Atascadero Road, Morro Bay	11.3 miles north of DCPP
Pacheco Elementary	261 Cuesta Drive, San Luis Obispo	10.5 miles northwest of PBR
Pacific Beach High School	11950 Los Osos Valley Road, San Luis Obispo	7.8 miles northeast of PBR
San Luis Coastal Adult School	1500 Lizzie Street H2, San Luis Obispo	9.1 miles north of PBR
San Luis Obispo High School	1499 San Luis Drive, San Luis Obispo	9.1 miles north of PBR
Sinsheimer Elementary	2755 Augusta, San Luis Obispo	8.2 miles north of PBR
Teach Elementary	145 Grand Avenue, San Luis Obispo	10 miles north of PBR
Lucia Mar Unified School District		
Arroyo Grande High School	495 Valley Road, Arroyo Grande	3.9 miles southeast of PBR
Branch Elementary	970 School Road, Arroyo Grande	6 miles east of PBR
Central Coast New Tech High	5232 North Thompson Avenue, Nipomo	11 miles southeast of PBR
Dana Elementary	920 W. Tefft Street, Nipomo	7.7 miles north of SMVR-SB
Fairgrove Elementary	2101 The Pike, Grover Beach	3.3 miles southeast of PBR
Grover Beach Elementary	365 S. 10th Street, Grover Beach	2.2 miles southeast of PBR

Table 4.14-1. Schools Serving the Project Area

School	Address	Approximate Distance from Closest Project Site
Grover Heights Elementary	770 N. 8th Street, Grover Beach	1.5 miles southeast of PBR
Harloe Elementary	901 Fair Oaks Avenue, Arroyo Grande	3.4 miles southeast of PBR
Judkins Middle School	680 Wadsworth Street, Pismo Beach	0.2 mile west of PBR
Lange Elementary	1661 Via Alta Mesa #9344, Nipomo	6.7 miles northwest of SMVR-SB
Lopez High School	1055 Mesa View Drive, Arroyo Grande	6.2 miles southeast of PBR
Mesa Middle School	2555 S. Halcyon Road	5.8 miles southeast of PBR
Nipomo Elementary	190 E. Price Street, Nipomo	8.9 miles northeast of SMVR-SB
Nipomo High School	525 N. Thompson Avenue, Nipomo	9.1 miles northeast of SMVR-SB
Oceano Elementary	1551 17th Street, Oceano	3.3 miles southeast of PBR
Ocean View Elementary	1208 Linda Drive, Arroyo Grande	2.6 miles southeast of PBR
Pacific View Academy/ Independent Study	1065 Mesa View Drive, Arroyo Grande	6.2 miles southeast of PBR
Paulding Middle School	600 Crown Hill Street	3.9 miles southeast of PBR
Shell Beach Elementary	2100 Shell Beach Road, Pismo Beach	2.7 miles west of PBR
Santa Maria Joint Union High School District		
Delta High School	4893 Bethany Lane	5.8 miles southeast of SMVR-SB
Ernest Righetti High School	941 E. Foster Road	5.6 miles southeast of SMVR-SB
Pioneer Valley High School	675 Panther Drive, Santa Maria	7.0 miles northeast of SMVR-SB
Santa Maria High School	901 S. Broadway, Santa Maria	4.5 miles northeast of SMVR-SB

Source: Lucia Mar Unified School District, 2021; San Luis Coastal Unified School District, 2021a, 2021b, 2021c, 2021d; Santa Maria Joint Union High School District, 2021.

Additionally, California Polytechnic State University, San Luis Obispo (Cal Poly SLO) and Cuesta College are also located in San Luis Obispo County. Cal Poly SLO is approximately 12 miles northeast of the DCPP and had a 2020 Fall enrollment of 22,022 students (Cal Poly SLO, 2021). Cuesta College is located approximately 10 miles northeast of the DCPP and had a 2019 Fall enrollment of 15,475 students (Cuesta College, 2021). Allan Hancock College, located in Santa Barbara County, is approximately 5.8 miles northeast of SMVR-SB. Allan Hancock College serves approximately 11,300 students (Community College Review, 2022).

Libraries. There are 14 libraries located throughout the San Luis Obispo County. The nearest libraries to the DCPP and PBR include the following:

- Arroyo Grande Library (800 W. Branch Street, Arroyo Grande), approximately 16 miles southeast of the DCPP and 3 miles southeast of the PBR;
- Los Osos Library (2075 Palisades Avenue, Los Osos), approximately 7 miles north of the DCPP and 16 miles northwest of the PBR;
- Oceano Library (1551 17th Street, Oceano), approximately 19 miles southeast of the DCPP and 3 miles southwest of the PBR;
- San Luis Obispo Library (995 Palm Street, San Luis Obispo), approximately 11.8 miles northeast of the DCPP and 9.4 miles north of the PBR; and

- Shell Beach Library (230 Leeward Avenue, Pismo Beach), approximately 11 miles southeast of the DCPP and 2 miles west of the PBR.

Library services in Santa Barbara County are grouped into four zones that serve cities and unincorporated areas within the County. The SMVR-SB site is located within Zone 3, Santa Maria, which provides services to the cities and unincorporated areas located within or near Cuyama, Guadalupe, Orcutt, and Santa Maria (Santa Barbara, 2021). The closest libraries to the SMVR-SB site within Zone 3 include the following:

- Guadalupe Library (4719 W. Main Street #D, Guadalupe), approximately 4.7 miles northwest of SMVR-SB;
- Orcutt Library (175 South Broadway, Santa Maria), approximately 5 miles northeast of SMVR-SB; and
- Santa Maria Library (421 South McClelland Street, Santa Maria), approximately 5 miles northeast of SMVR-SB.

4.14.1.2 Utility Systems

Electricity and Natural Gas. The DCPP currently requires approximately 5 megawatts (MW) of non-DCPP generated electricity for ongoing operations, which is provided by PG&E's regional power grid. PG&E also provides electricity to the PBR and SMVR-SB sites. PG&E's power mix includes all PG&E-owned generation (hydroelectric, fossil fuels, nuclear, and renewables) plus PG&E's power purchases. In 2018 and 2019, the PG&E service area consumed 102,716 gigawatt-hours (GWh) and 104,854 GWh, respectively (PG&E, 2021a). A decrease in electrical generation to the grid from the DCPP would occur as part of the shutdown of DCPP (see Section 1.2.1, *DCPP License Expiration and Retirement*). However, shutdown of the power plant and the effects that may have on the State's power supply are not part of the Proposed Project, as PG&E decided to forgo efforts to renew its licenses to operate DCPP at the expiration of its current NRC Part 50 facility operating licenses in 2016 (see Section 2.1, *Project Summary*). The Proposed Project involves the decontamination and dismantlement (i.e., decommissioning) of the shutdown DCPP components after power generation ceases, which would not result in a decrease in electrical generation.

The DCPP does not use or require natural gas, and no natural gas pipelines or facilities are located within the DCPP site. Southern California Gas Company provides natural gas to the PBR and SMVR-SB sites (PG&E, 2021a).

Wastewater. Wastewater generated by the DCPP is primarily processed on site. The existing DCPP wastewater treatment plant is located on site with a maximum throughput of about 60,000 gallons per day at full capacity. The wastewater treatment plant operates under waste discharge requirements identified in the National Pollutant Discharge Elimination System (NPDES) permit No. CA0003751 issued by the Central Coast Regional Water Quality Control Board (CCRWQCB). PG&E has a contract for licensed personnel to operate the wastewater plant to ensure that effluent releases are within the limits of the NPDES permit. Between 2016 and 2020, the average liquid effluent daily discharge was 13,177 gallons per day (PG&E, 2021a). The DCPP wastewater treatment plant is anticipated to be removed at the end of Phase 1 (2031); an existing septic and

dispersal system in the East Canyon area would be upgraded or a new septic system constructed to support for the revised OCA.

The DCPP site also contains an oily water separator, which collects oily wastewater from all site wastewater-generating operations. Oil is separated and collected into a sludge box where it is removed and shipped off site for disposal. Cleaned water is sent to the discharge where it is mixed with other wastewater discharges (PG&E, 2021a).

The PBR site is connected to the City of Pismo Beach Wastewater Treatment plant; the City contracts with the South San Luis Obispo Community Services District (SSLOCSD) to share their treated wastewater outfall in Oceano. The SMVR-SB site is not connected to wastewater services (PG&E, 2021a). The City of Pismo Beach Public Works Department and County of Santa Barbara Public Works Department provide wastewater treatment services to the City of Pismo Beach and County of Santa Barbara, respectively (PG&E, 2021a).

Solid Waste Management. Solid waste is currently generated at the DCPP to support ongoing operations. Solid waste is disposed of consistent with applicable state, local, and federal regulations. The PBR and SMVR-SB sites do not contract for solid waste management services. South County Sanitary Services and Santa Barbara County Resource Recovery and Waste Management Division provide solid waste services to the City of Pismo Beach and County of Santa Barbara, respectively (PG&E, 2021a).

Water Supply. The DCPP utilizes two sources of freshwater for its fire protection system, power operations, and drinking water. The plant desalination unit is the primary source of water, producing up to 450 gallons per minute of freshwater. On-site deep wells also provide supplementary freshwater as necessary. The DCPP is located within the San Luis Obispo County Flood Control and Water Conservation District. The PBR and SMVR-SB sites are not connected to water suppliers (PG&E, 2021a). However, the City of Pismo Beach Public Works Department and County of Santa Barbara Public Works Department provide water supply to the City of Pismo Beach and County of Santa Barbara, respectively (PG&E, 2021a). The County has adopted a multi-source water supply strategy and obtains water from various surface water sources. Table 4.14-2 provides the surface water source, storage capacity, and contracted supply amount to the San Luis Obispo County Flood Control and Water Conservation District and County of Santa Barbara Public Works Department.

Table 4.14-2. Surface Water Sources

Surface Water Source	Storage Capacity (AF)	Contracted Amount/Average Annual Yield (AF/year)
San Luis Obispo County		
Nacimiento Reservoir	377,900	15,750
Whale Rock Reservoir	40,662	40,660
Lopez Lake	49,388	4,530
Santa Margarita Lake/Salinas Reservoir	23,843	6,950
San Luis Obispo County Total	**716,183**	**68,030**

Table 4.14-2. Surface Water Sources

Surface Water Source	Storage Capacity (AF)	Contracted Amount/Average Annual Yield (AF/year)
Santa Barbara County		
Jameson Reservoir	7,500	5,291
Gibraltar Reservoir	14,000	4,600
Cachuma Reservoir	205,000	8,277
Twitchell Reservoir	194,971	32,000
Santa Barbara County Total	**121,471**	**50,168**

Source: San Luis Obispo, 2020; Santa Barbara, 2019; PG&E, 2021a.
Acronym: AF=acre-feet

Telecommunication Services. AT&T, Verizon, Charter, T-Mobile, Peak Wifi, Spectrum, Sparklight, and Earthlink provide telecommunications services in San Luis Obispo County. PG&E has existing telecommunications capabilities at DCPP and PBR (PG&E, 2021a).

Verizon, Xfinity, COX Communications, Frontier, Viasat, and HughesNet are the primary telecommunications service providers available in Santa Barbara County (PG&E, 2021a).

4.14.2 Regulatory Setting

The primary federal and state laws, regulations, and policies that are applicable to the Proposed Project are summarized in Appendix C. Relevant regional and local laws, regulations, and policies are presented below.

County of San Luis Obispo General Plan, Safety Element. The San Luis Obispo County General Plan Safety Element outlines the County's applicable goals and policies regarding public services (San Luis Obispo, 1999).

Goal S-1: Attain a high level of emergency preparedness.

> Policy S-1: Support the response programs that provide emergency and other services to the public when a disaster occurs. The focus of response activities is saving lives and preventing injury and reducing immediate property damage.
>
> Policy S-2: Continue to improve preparedness programs that educate and organize people to respond appropriately to disasters. They include education and awareness programs for individuals, families, institutions, businesses, government agencies, and other organizations.
>
> Policy S-3: Improve coordination among City, County and State programs, and among others working to reduce the risks of disasters. This should also include improved coordination with the news media. This will result in more effective preparedness, response, and recovery from disasters.
>
> Policy S-4: Expand and keep current the database of safety related information. Knowledge about disasters and the area we live in is growing. New information must be made available to the public and decision makers. Regularly update the GIS data as new information becomes available.

Policy S-5: Continue investigations that reduce or eliminate long term risks. Risk assessment activities, effectively carried out, can improve the efficiency, and reduce the cost of response and recovery from disasters.

Goal S-4: Reduce the threat to life, structures, and the environment caused by fire.

Policy S-14. Ensure that adequate facilities, equipment, and personnel are available to meet the demands of fire fighting in San Luis Obispo County based on the level of service set forth in the fire agency's master plan.

Policy S-15. The CAL FIRE/County Fire Department will maintain and improve its ability to respond and suppress fires throughout the County.

Goal S-6: Reduce the potential for harm to individuals and damage to the environment from aircraft hazards, radiation hazards, hazardous materials, electromagnetic fields, radon, and hazardous trees.

Policy S-25. Maintain a high level of emergency preparedness and information to the public.

County of San Luis Obispo County General Plan, Local Coastal Program, Public Service Considerations. The Public Service Considerations chapter in the County General Plan, Local Coastal Program describes goals, objectives, and implementing strategies for public services (San Luis Obispo, 2018).

Objective 3. Provide additional public resources, services, and facilities in sufficient time to avoid overburdening existing resources, services, and facilities while sustaining their availability for future generations.

County of San Luis Obispo Department of Planning and Building, Onsite Wastewater Treatment Systems Local Agency Management Program. The State Water Resources Control Board adopted Resolution No. 2012-0032, the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS policy) on June 19, 2012. The OWTS policy became effective on May 13, 2013, and established a statewide, risk-based tiered approach for the regulation and management of OWTS. The purpose of Local Agency Management Program (LAMP) is to allow continued use of OWTS within the jurisdiction of the County of San Luis Obispo as well as to expand the local program to permit and regulate non-conventional OWTS while protecting water quality and public health. The Central Coast Water Board has jurisdiction over the County of San Luis Obispo and authorizes the County of San Luis Obispo Planning and Building Department to issue certain OWTS permits.

The County of San Luis Obispo Department of Planning and Building oversees OWTS permits, projects, and reviews and approves the plans. To obtain a construction permit for the installation of a new or replacement septic system, the Applicant shall submit a percolation test design and results of percolation testing performed by a registered civil engineer, registered geologist, or registered environmental health specialist. The qualified professional must develop and submit a layout design for the proposed building project and specific OWTS for review. Prior to approval of the layout design, additional testing (including depth to groundwater measurements during an average rainfall year or grading permits) may be required. Some OWTS permits require County

Planning and Building grading permits. Before approval of the OWTS construction permit, the applicant must prove that a potable water supply is available for the project. After approval of the OWTS construction permit, the OWTS can be installed. An inspection prior to backfill of the OWTS is required and appropriate stormwater best management practices must be implemented during construction. At the time of inspection, the engineer's report of system construction shall be collected.

City of Pismo Beach General Plan, Facilities and Services Element. The City of Pismo Beach General Plan, Facilities and Services Element contains the following relevant policies (Pismo Beach, 2014).

Policy F-10: Response Time. The City should maintain personnel, equipment and facilities to achieve a minimum four-minute response time 95 percent of the time on medical emergencies. The City should also maintain same for a minimum acceptable response time of five minutes 95 percent of the time for all other emergency service calls to all areas of the city.

Policy F-12: New Developments/Impact Fees. The City shall require all new development proposed in the city and annexing properties to pay fees for additional equipment and fixed facilities as needed to service the new development. In annexation areas the city will consider the need for additional fire stations, equipment, and manpower. The City may also require the formation of fire protection districts to fund fire suppression and emergency medical services. Water facilities for fire suppression shall be in and serviceable prior to flammable construction.

Policy F-17: Staffing Requirements. The City shall maintain a level of police staffing that will permit the department to give adequate attention to calls for service, to patrol and prevention, and to administrative requirements. New patrol units may need to be established in future annexation areas.

Policy F-18: Emergency Response. The City shall attempt to maintain a police response time to emergency situations (Level I), of no more than five minutes.

Policy F-21: New Developments/Impact Fees. The City shall require all new development proposed in the city and annexing properties to pay fees for additional equipment and fixed facilities as needed to service the new development. This may include the purchase and installation of radio repeater systems.

Santa Barbara County Comprehensive Plan, Hazardous Waste Element. The Hazardous Waste Element includes the following applicable goals, implementation programs, and criteria (Santa Barbara, 2009).

Goal 3-1: To site needed hazardous waste facilities in areas that ensure the protection of public health and safety and the environment.

> Implementation Program 3-B (3e) Development Standards. Availability of public services (water, sewer, utilities) is required for hazardous waste treatment, recycling, transfer, and storage facilities in urban areas. Onsite, private services are allowed only when these facilities are needed to serve local demand in rural areas, or the size and type of facility is determined inappropriate for urban areas. Onsite, private services shall be designed to accommodate expected demand and to protect environmental resources. Onsite, private

services are allowed for residuals repositories if designed to accommodate expected demand and to protect environmental resources.

Siting Criteria for Offsite Commercial Hazardous Waste Facilities 1: Protect Residents of Santa Barbara County

Part D. Availability of Emergency Services. Hazardous waste facilities shall be located where served by fire departments trained to deal with hazardous materials accidents and where response times are the same or better than those recommended by the National Fire Protection Association unless it is demonstrated to the satisfaction of the County or City that comparable emergency response capabilities will be available onsite. Additional emergency services, design, and equipment may be required based on the risk assessment and the risk management and emergency response plans.

As described in Section 1.3.3.2, *Surface Transportation Board*, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction over railyards (e.g., SMVR-SB).

Santa Barbara County Comprehensive Plan, Seismic Safety and Safety Element. The Seismic Safety and Safety Element includes the following applicable goals, objectives, and policies (Santa Barbara, 2015a).

Geologic and Seismic Goal 1: Protect the community to the extent feasible from risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche and dam failure; slope instability leading to mudslides and landslides; subsidence, liquefaction, and other seismic hazards pursuant to Government Code §65302(g)(1), Chapter 7.8 (commencing with Section 2690) of Division 2 of the Public Resources Code, and other geologic hazards known to the legislative body.

Policy 3. The County shall ensure compliance with State seismic and building standards in the evaluation, design, and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous material manufacture and storage facilities, bridges, large public assembly halls, and other structures subject to special seismic safety design requirements pursuant to the California Code of Regulations, Title 24, Part 2 California building code.

Policy 4. The County Office of Emergency Services (OES) shall continue coordinating emergency planning for the Santa Barbara Operational Area pursuant to the California Emergency Services Act of 1970.

Fire Protection and Prevention Goal 1: Protect the community from unreasonable risks associated with the effects of wildland and urban fires pursuant to Government Code 65302 (g)(1).

Policy 8. The County Office of Emergency Services (OES) shall continue coordinating emergency planning for the Santa Barbara Operational Area pursuant to the California Emergency Services Act of 1970.

Flood Goal 1. Protect the community from unreasonable risks of flooding pursuant to Government Code §65302(g) et. Seq.

> Flood Objective 1. Pursuant to County Code Chapter 15A-Flood Plain Management, promote the public, health, and general welfare, and minimize public and private losses due to flood conditions.
>
> Policy 3. The County shall maintain the structural and operational integrity of essential public facilities during flooding pursuant to Government Code §65302(3)(g)(2)(iii).
>
> Policy 4. The County shall locate, when feasible, new essential public facilities outside of flood hazard zones, including hospitals and health care facilities, emergency shelters, fire stations, emergency command centers, and emergency communications facilities or identify construction methods or other methods to minimize damage if these facilities are located in flood hazard zones pursuant to Government Code §65302(3)(g)(2)(iv).
>
> Policy 8. The County Public Works Department should continue working with the County Office of Emergency Services in updating flood information in the Santa Barbara County Multi- Jurisdictional Hazard Mitigation Plan.
>
> Policy 11. The County Office of Emergency Services (OES) shall continue coordinating emergency planning for the Santa Barbara Operational Area pursuant to the California Emergency Services Act of 1970.

County of Santa Barbara Comprehensive Plan, Energy Element. The Santa Barbara County Comprehensive Plan Energy Element provides applicable goals and policies regarding water and solid waste (Santa Barbara, 2015b). As described in Section 1.3.3.2, *Surface Transportation Board*, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction.

Goal 4: Water Use and Solid Waste. Increase the efficiency of water and resource use to reduce energy consumption associated with various phases of using resources (pumping, distribution, treatment, heating, etc.)

> Policy 4.1: Construction. Encourage recycling and reuse of construction waste to reduce energy consumption associated with extracting and manufacturing virgin materials.
>
> Policy 4.2: Recycled Materials. The County shall require adequate areas for collecting and loading recyclable materials in development projects, and shall further address recycling logistics in its zoning ordinance.
>
> Policy 4.4: Procurement of Recycled Products. The County shall procure products made from recycled materials to the maximum extent feasible, and as budget constraints allow.

4.14.3 Significance Criteria

The significance criteria used to evaluate the Proposed Project's potential environmental impacts related to Public Services and Utilities are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. A significant impact would occur if the Proposed Project would:

- Cause 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 would 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, police protection, schools, parks, and other public facilities.
- Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
- Have insufficient water supplies to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.
- Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.
- 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.
- Conflict with federal, state, and local management and reduction statutes and regulations related to solid waste.

4.14.4 Environmental Impact Analysis and Mitigation

Impact PSU-1: Affect emergency services including response times for fire or police protection that could necessitate new or altered public services or government facilities (Class II: Less than Significant with Mitigation)

Phase 1

DCPP Project Site

Phase 1 activities would have fewer workers and a different level of activity compared to existing DCPP operations. The number of workers on site would decrease, which is generally around 1,400 operational workers and currently 1,157 (as of 2021), to approximately 870 decommissioning workers during Phase 1. However, decommissioning activities would increase safety and fire hazard concerns for construction-related accidents, hazard spills, and hot work activities such as welding, cutting grinding, and increased combustible loading. There would also be the erection of temporary structures to support decommissioning, and dismantlement of the plant and deactivation of plant systems. Although the DCPP facility has safety protocols in place that would continue to be followed throughout decommissioning activities, many of the applicable plans and programs to minimize or avoid safety hazards and security risks would require updating to address decommissioning risks.

Section 2.2.4, *Ongoing Safety and Environmental Activities*, identifies the following ongoing and proposed plans and programs that may reduce the need for fire and police protection service by addressing safety protocols: the DCPP Hazardous Materials Business Plan, Emergency Plan (Police Protection), Operational Plan, Radiological Protection Program, and the Transition Plan. Each of these plans must be evaluated for changes necessary to address decommissioning activities and updated accordingly. The current Operational Plan agreement with CAL FIRE/County Fire, in particular, must be modified to address the Project-specific decommissioning risks, such as security of the Project sites during decommissioning and radiation protection during removal and transport activities in accordance with NRC requirements. The Transition Plan would provide for transitioning fire protection services from the DCFD to CAL FIRE/County Fire in a manner agreeable to both entities such that the level of service of fire protection or paramedic services would be at a level appropriate for the site post-decommissioning. Recommendations of MM PSU-1 would meet the requirements of the National Fire Protection Association (NFPA) standards. The Emergency Plan for Police Protection would be updated to address the modification to DCPP security once the SNF is transferred to the ISFSI and the GTCC waste is securely stored at the GTCC Waste Storage Facility. It would also identify the policing agencies' (i.e., CHP, County Sheriff) roles and responsibilities following decommissioning. Updating and implementing the plans and programs would help reduce the potential for accidents to occur while ensuring adequate availability of public safety services throughout decommissioning, and thus prevent increasing response times for fire or police protection.

To ensure that these proposed plans are updated for decommissioning, implemented, and adhered to throughout the duration of the Proposed Project, Mitigation Measure (MM) PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) is required, which would reduce impacts to a less-than-significant level, as recommendations would comply with requirements of agencies such as the NRC and NFPA. MM PSU-1 would require PG&E to identify the applicable plans and programs, update them to address Project decommissioning, provide copies to County Planning and Building, record applicable specific recommendations during Project activities, and provide proof of implementation to the County Department of Planning and Building. MM PSU-1 also provides details associated with updating the Operational Plan for decommissioning (i.e., "Decommissioning Operational Plan").

As required by the NRC, the DCPP has armed on-site security. Access to the site is controlled at a staffed gatehouse located at the entrance to Diablo Canyon Road at Avila Beach Drive. There is also a gate on North Ranch Road/Pecho Valley Road. The security requirements for the DCPP site would change during decommissioning, with the transfer of the SNF to the ISFSI and the removal of radioactive plant components. PG&E has an MOU with the CHP, as a requirement of its NRC Emergency Plan, to provide aid during an emergency at the DCPP (PG&E, 2021a). PG&E also has a letter of agreement with the San Luis Obispo County Sheriff's Office which addresses their role in security and emergency planning. The specifics of these agreements are confidential. The MOU and letter of agreement would require updating to address security measures once all the SNF is in the ISFSI and the DCPP site has been released from the NRC Part 50 facility operating licenses, and the revised OCA is established. DCPP Security would maintain security responsibilities for the revised OCA.

The gatehouse at the entrance of Diablo Canyon Road at Avila Beach Drive is proposed to remain until 2035. The existing security gate at the northwest side of the OCA on North Ranch Road/Pecho Valley Road would remain to control access from the north. New security gates would be installed on the southeast side of the revised OCA boundary on Reservoir Road at the intersection of Diablo Canyon Road/Diablo Ocean Drive and at the Marina area at the start of the new blufftop road segment (Diablo Ocean Drive) limiting access north along the new blufftop road and Diablo Creek Bridge. Public access to the open area outside the revised OCA would be restricted and not allowed, unless on the designated Pecho Coast Trail, Point Buchon Trail, or at the DCPP Marina, once permitted (PG&E, 2023a).

During Phase 1 activities, the DCFD would continue to be the primary fire protection and medical services responder for the DCPP site. As outlined in the Decommissioning Operational Plan, CAL FIRE/County Fire and the DCFD would work cooperatively to address authorities, training and drills, plans, and other responsibilities. Once all DCPP operations cease in 2025, PG&E fire support operations would consist of 13 full-time employees (fire brigade and one fire captain) for the first approximately 18 months after the shutdown of Units 1 and 2, and six full time employees (fire brigade and one fire captain) thereafter, until all SNF are removed from the Spent Fuel Pools. Once all SNF has been stored at the ISFSI, which is anticipated by 2029, on-site fire support from CAL FIRE/County Fire would be needed, as the risk of Project-related fire would still be present due to hot work (e.g., welding), and the potential for accidents and enclosed space incidents during decommissioning (PG&E, 2022b). CAL FIRE/County Fire would assume responsibility for determining staffing needs at that point in time (PG&E, 2022a). Potential fire- and safety-related incidents occurring during the transitional period would be identified and addressed in the Decommissioning Operational Plan. Some DCFD personnel would remain on site to provide emergency point-of-contact, share institutional knowledge, and provide necessary training. At that time, staffing at the DCFD would comply with the NFPA staffing standard of three people, including a captain, engineer, and firefighter (one would be a paramedic) (San Luis Obispo, 2022).

Although nuclear reactor electrical generating activities would cease to occur, and the number of workers on site would be reduced, dismantling the DCFD facilities and elimination of on-site firefighting staff would result in an unacceptable response time for the nearest fire station (Avila Valley Fire Station 62) to respond to an incident at DCPP. Closure of the DCFD would impose the burden of providing emergency services at the DCPP site onto Avila Valley Station 62. Avila Valley Station 62 has a response time of 17 minutes to the DCPP site, which is greater than CAL FIRE/County Fire's target response time of 15 minutes for the full range of service levels for rural areas (CalFire/San Luis Obispo County Fire, 2012). The Avila Valley Station 62 could not adequately support both the DCPP site and the community of Avila Beach if multiple emergency events were to occur simultaneously (San Luis Obispo, 2022).

Therefore, MM PSU-2 is required to maintain an acceptable level of service at the DCPP site, surrounding area, and Avila Beach. MM PSU-2 requires the existing DCFD facility be retained and staffed by the DCFD throughout the Project. Retention of the facility would reduce impacts affecting response times for fire and emergency services to a less-than-significant level (Class II). MM PSU-2 would provide a continuous and acceptable level of service for the DCPP site and community of Avila Beach by retaining the existing emergency response facilities to avoid inadequate response times. MM PSU-2 would require the DCFD to be staffed in accordance with

the NFPA staffing standards for an industrial construction site and to retain firefighting vehicles and equipment. In addition, given the extent of the decommissioning activities and the distance to the French Hospital and Sierra Vista Medical Center (approximately 18 and 17 road miles, respectively), MM PSU-2 requires that a suitable location(s) for a helicopter landing zone(s) be selected and demarcated in case an injury warranting life flight occurs.

The use of specialty heavy-haul transport vehicles (generally 12-axle, 20-foot-wide, and 200-feet long transporters) to transport waste may require road and lane closures due to the vehicle size, which could obstruct or slow down emergency service access on affected roads, such as Avila Beach Drive. Although the CHP would escort the transporter during all movements in California, given the width of the specialty heavy-haul transport vehicles (20-feet) and the width of Avila Beach Drive (22-feet), and the need to have sufficient room for personal vehicles in the event of an evacuation, the road would be closed during the transportation of the specialty heavy-haul transport vehicles.

Depending on the contractor and the specific equipment used, the heavy-haul transport vehicle may be able to enter the site without road or lane closures, as the specialty vehicle trailer could be "packed" or stacked to reduce the trailer size to a standard tractor-trailer. For CEQA purposes, the impacts of full road and lane closures for both incoming and outgoing trips (79 inbound and 79 outbound trips) are analyzed, and therefore assumes 158 trips would occur on separate nights.

MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*) requires that a Transportation Management Plan be prepared for the transportation of specialty heavy-haul vehicles including identification of the schedule, routes, coordination, parking restrictions, notification, and monitoring for heavy-haul transport vehicles and associated road closures. Implementation of MM TRA-2 would reduce impacts affecting emergency access.

Phase 1 and 2 decommissioning activities would include in-water work including removal and restoration of the Discharge Structure, installation and removal of the cofferdam to facilitate the Discharge Structure work, waste loading onto barges from the Intake Structure, and closing the openings of the Intake Structure. PG&E has two boats at its Marina boat dock. In addition, at least one trained boat operator is on site at all times. This would continue during decommissioning. In the event of a water emergency during decommissioning, the boat operator would transport DCFD personnel to provide aid. In addition, PG&E anticipates requiring its barge contractor to provide specified personnel and equipment to respond to emergencies related to barging activities. To ensure water emergencies during decommissioning are addressed, MM PSU-1 requires that a Water Emergency Response Plan be prepared to address the potential for marine-related accidents or emergencies. The Water Emergency Response Plan would identify the number of trained emergency personnel and appropriate watercraft for emergency rescue events. Therefore, impacts related emergency response times would be less than significant with mitigation (Class II).

Railyards

Pismo Beach Railyard. During Phase 1, trucks may transport non-radiological and non-hazardous waste to the PBR site. The Proposed Project would refurbish the PBR site, including replacing a portion of railroad track, wood railroad ties, and adding gravel (see Section 2.3.4, *Modifications and Operations at Rail Facilities*). If the PBR site is used, PG&E would ship non-radiological and non-hazardous waste outside peak traffic periods for Judkins Middle School (morning drop-off approximately 8:30-9:30 a.m. Mondays and 7:30-8:30 a.m. Tuesday-Friday; and afternoon pickup approximately 2:00-3:00 p.m. Monday-Friday and 11:00 a.m. – 12:00 p.m. on Minimum Days), as required by MM TRA-1 (*Truck Transportation Outside of Peak Hours*). Avoiding peak traffic periods would reduce impacts to emergency services response times. Waste transport by rail is expected be completed by the end of Phase 1 (2031) assuming the PBR site is not used as a contingency site, upon which the PBR site would no longer be used to support the Proposed Project, and no additional emergency services would be needed.

Proposed Project activities at the PBR site would not increase the number of permanent residents or result in a substantial increase in workers, and as such, would not increase the demand for emergency services or new or altered public services or facilities. The impact at the PBR site would be less than significant (Class III).

SMVR-SB. During Phase 1, trucks may transport oversized and heavy loads to the SMVR-SB site. No shipments would occur between 7:00 a.m. and 9:00 a.m. or between 3:00 p.m. and 6:00 p.m. (MM TRA-1) and use of specialty heavy-haul transport vehicles could only occur between 10:00 p.m. and 5:00 a.m. (MM TRA-2). Minor modifications to the SMVR-SB site would be completed to support the Proposed Project (see Section 2.3.4, *Modifications and Operations at Rail Facilities*). Waste transport by rail would occur between 2024 and 2029 (see Table 2-7). Approximately 10 temporary employees would be on site during active use of the SMVR-SB site. This would consist of approximately two PG&E employees, six temporary workers, and two security personnel. The workers would be on site for limited periods of time, as an average of one to six shipments would occur per month between 2024 and 2029. The waste shipment operations would cease after Phase 1.

Security during receipt and storage of the Class A, B, and C wastes at the railyard would be maintained pursuant to 49 CFR 172.820. Security presence would be maintained for the duration of time when each shipment is received and temporarily stored. A Security Plan would be developed that includes the definition of the personnel and duties for each position that is responsible for implementing the Security Plan. Proposed Project activities would not increase the number of permanent residents or result in a substantial increase in workers, and as such, would not increase the demand for emergency services or new or altered public services or facilities. The impacts at the SMVR-SB would be less than significant (Class III).

Phase 2

Phase 2 decommissioning activities would require construction equipment and vehicles entering and exiting the DCPP site to transport workers, materials, and structures, but at a much smaller

scale compared to Phase 1. A maximum of approximately 270 workers would be on site during Phase 2. As with Phase 1, MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) would be required in Phase 2 to ensure that recommendations from plans and programs are implemented, tracked, and verified.

Staffing would continue to decrease until site remediation and final site restoration is complete. After remediation and final site restoration at the end of Phase 2, the only staff needed on site would be those required to monitor and protect the ISFSI and GTCC Waste Storage Facility until an off-site interim storage facility or permanent repository is available. The smaller number of staff needed during Phase 2 compared to current operations and Phase 1 would reduce the need for emergency response services. However, Phase 2 activities, including trucking of waste export and materials import, final site grading, site restoration, construction of the blufftop road, and completion of the Discharge Structure restoration and closure of the Intake Structure would still require an appropriate level of on-site emergency services response.

Transfer of the SNF to the ISFSI and GTCC waste to the GTCC Waste Storage Facility is expected to be completed by 2029 (Phase 1). In addition, the Reactor Pressure Vessel and Internals are expected to be removed and transported for disposal in 2030 (Phase 1). During Phase 2, the focus of the DCPP on-site security would be associated with the ISFSI and GTCC waste. However, DCPP on-site security would still provide security for the site until decommissioning is complete. In 2035, PG&E intends to remove the gatehouse at Diablo Canyon Road at Avila Beach Drive. The existing gate on North Ranch Road/Pecho Valley Road would remain. New security gates would be installed on the southeast side of the revised OCA boundary on Reservoir Road and at the Marina area at the start of the new blufftop road segment limiting access north along the new blufftop road and Diablo Creek Bridge. MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*) requires PG&E to prepare a plan detailing how public access will be restricted to the DCPP site once the Avila Gate Guard House Facilities at Avila Beach Drive/Diablo Canyon Road are removed. This could include the installation of road barricades and/or barriers and no trespassing signs. The purpose of the road barrier is to prevent impacts to cultural resources due to uncontrolled access. The barrier and signage would also prevent trespassing and security issues.

Public access to the open area outside the revised OCA would be restricted and not allowed, unless on the designated Pecho Coast Trail, Point Buchon Trail, or at the DCPP Marina. Assuming a third party leases the Marina area (see Section 2.7, Future Actions – Retain Marina for Permitting and Reuse by Third Party), public access to open areas outside the revised OCA would be restricted to the Marina and Diablo Canyon Road. No other public access would be provided.

Security and emergency planning with the CHP, Sheriff's Office, and any other appropriate law enforcement agency would be conducted during Phase 2, and the necessary agreements with these entities would be updated prior to the end of Phase 2.

With MM PSU-2, the on-site DCFD and emergency rescue equipment and facilities would continue to be maintained and operated by PG&E through completion of Phase 2 to ensure that the level of service would remain adequate. Impacts to fire emergency services and associated response times at the DCPP during Phase 2 decommissioning activities would be less than significant with mitigation incorporated. At the end of decommissioning, the potential for fire or other

emergencies would decrease with the reduced configuration, operation, and types and amounts of hazardous materials on site. Additionally, implementation of MM PSU-2 ensures the continued operation of the on-site DCFD and emergency rescue facilities by CAL FIRE/County Fire post-decommissioning. Therefore, impacts to emergency services associated with DCPP decommissioning would be less than significant with mitigation (Class II).

Post-Decommissioning Operations

New Facility Operations. Traffic to and from the site would include security staff, other employees and visitors, and delivery of maintenance equipment or supplies. Fewer than 50 people are anticipated to be on the site during new facility operations. Access to the revised OCA would be controlled by a new gate located at the southeast entrance to that area on Reservoir Road. An existing controlled access gate is on the northwest side of the revised OCA on North Ranch Road/Pecho Valley Road and limits access from the north (PG&E, 2023a). Security agreements with the CHP and Sheriff's Office would be developed to address security planning and response for the revised OCA. CAL FIRE/County Fire emergency response would entail responding to building, equipment, and vegetation fires within the revised OCA and medical emergencies that would require medical response or transportation to a hospital. As required by the NRC, PG&E would be required to provide for transportation and treatment of injured personnel who may also be radiologically contaminated (NRC, 2015). In addition, PG&E is required by the NRC to identify the services to be provided by local agencies for handling emergencies (e.g., sheriff, ambulance, medical, hospital, and firefighting organizations). In its post-decommissioning Emergency Plan, PG&E must reference and append the arrangements and agreements reached with contractor, private, and local support agencies. The agreements must delineate the authorities, responsibilities, and limits on the actions of the contractor, private organization, and local services support groups (NRC, 2015).

Emergency services would be required to respond to potential accidents and provide rescue services. Avila Valley Station 62 has a 17-minute response time to the DCPP site, which is greater than CAL FIRE/County Fire's target response time of 15 minutes for the full range of service levels for rural areas. Avila Valley Station 62 would not adequately support both the DCPP site and the Avila Beach community if multiple emergency events were to occur simultaneously (San Luis Obispo, 2022). Since the fire station and emergency response equipment would no longer be necessary to support utility services, MM PSU-2 would provide a continuous and acceptable level of service for the site and Avila Beach Community by having CAL FIRE/County Fire assume responsibility, operation, and maintenance of the DCFD facilities, firefighting vehicles, and equipment after the Proposed Project is complete. CAL FIRE/County Fire would provide staffing and emergency services using the retained DCFD facilities, vehicles, and equipment. Impacts would be less than significant (Class III).

Future Actions. Post-decommissioning, the Marina could be sublet (or other arrangement) to a third party for permitting and reuse for recreational, education, or commercial purposes. The Marina improvements would include installing a boat hoist and stairs on the Intake Structure and building a 2,000 square-foot building or office for commercial purposes, a public restroom supported by a septic and dispersal system, and parking facilities. It is assumed that up to 200 people per day would visit the Marina to use the facilities and operate small vessels or personal

watercrafts. It is also assumed that there would be five employees working in support of the Marina operations.

Based on NRC requirements, DCPP security personnel would have the lead responsibility associated with any security emergency within the revised OCA. However, MM PSU-1 requires that the Emergency Plan (Police Protection) be updated to address the transition to post-decommissioning and identify roles and responsibilities of the police agencies (CHP, Sheriff's Office, or other appropriate law enforcement agency) in providing assistance when necessary to DCPP security personnel in the revised OCA. The Sheriff's Office (or other appropriate law enforcement agency such as the Port San Luis Harbor District) would be responsible for responding to any law enforcement incident at the Marina. The new security gate at the start of the new blufftop road segment leading to the Marina would limit access north along the blufftop road and Diablo Creek Bridge (PG&E, 2023a).

Emergency services would be required to respond to potential accidents and provide rescue services. Avila Valley Station 62 has a 17-minute response time to the DCPP site, which is greater than CAL FIRE/County Fire's target response time of 15 minutes for the full range of service levels for rural areas. Avila Valley Station 62 would not adequately support both the DCPP site and the Avila Beach community if multiple emergency events were to occur simultaneously (San Luis Obispo, 2022). Since the fire station and emergency response equipment would no longer be necessary to support utility services, MM PSU-2 would provide a continuous and acceptable level of service for the site and Avila Beach Community by having CAL FIRE/County Fire assume responsibility, operation, and maintenance of the DCFD facilities, firefighting vehicles, and equipment after the Proposed Project is complete. CAL FIRE/County Fire would provide staffing and emergency services using the retained DCFD facilities, vehicles, and equipment. Impacts would be less than significant with mitigation (Class II).

Mitigation Measures for Impact PSU-1.

CUL-10 **Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities.** See Section 4.5.

PSU-1 **Facility Plan Updating, Tracking, and Reporting.** At least 90 days prior to the applicant's submittal of any applications for decommissioning-related construction permits, the Applicant or its designee shall update all applicable existing facility plans and programs and develop a Plan Tracking and Reporting Form to identify and ensure that applicable recommendations in the plans and programs will be implemented throughout the Project to reduce impacts. The Tracking Form shall include (at a minimum): agencies involved with or have oversight on the plan or program; which agency is lead; deadline or trigger for plan/program requirement; tracking and updating intervals; and information on how missed deadlines on approval or reporting would be handled.

Plan Updating: The updated or new plans and programs shall be submitted to CAL FIRE/County Fire and San Luis Obispo County Planning and Building for review and approval at least 30 days prior to the submittal of permit applications to CAL FIRE/ County Fire and San Luis Obispo County Planning and Building for any decommissioning activities or issuance of any permits. No County permits shall be issued until

the Applicant's updated plans are approved and the County's Environmental Monitoring Plan has been incorporated into the updated plans.

At a minimum, plans and programs shall include the following:

- DCPP Hazardous Materials Business Plan
- DCPP Fire Protection Program (Decommissioning Fire Protection Program)
- Emergency Plan (Police Protection)
- Operational Plan (Decommissioning Operational Plan)
- Radiological Protection Program
- Transition Plan

PSU-1A: Prior to any County decommissioning-related construction permit issuance for Phase 1, the Applicant or its designee shall submit the updated and executed Operational Plan (hereinafter referred to as the "Decommissioning Operational Plan") to ensure adequate emergency response requirements and staffing throughout decommissioning Phases 1 and 2 in compliance with existing standards and regulations. The Decommissioning Operational Plan shall also include the following:

1. A Preliminary Transition Plan which addresses timing, process, staffing, and CAL FIRE/County Fire training for post-decommissioning operations and related emergencies associated with the revised OCA to meet National Fire Protection Association standards and State fire safety regulations. The preliminary plan shall include sufficient detail to enable budget planning and coordination between County Administrative Services and CAL FIRE/County Fire in advance of the post-decommissioning transition specified in Mitigation Measure PSU-2; and

2. A Water Emergency Response Plan to address the potential for marine-related accidents or emergencies. The plan shall identify the watercraft available for marine rescue, its location (i.e., Marina dock), and the personnel authorized to access and available to pilot the watercraft. The plan shall identify the authorities and responsibilities for marine rescue in the event of a barge-related accident.

The draft Decommissioning Operational Plan shall be submitted to CAL FIRE/County Fire and San Luis Obispo County Planning and Building Department for review, and shall be approved by Joint-Agency Agreement, Memorandum of Understanding (MOU), or similar mechanism.

PSU-1B: Prior to the issuance of any permits for Phase 2 decommissioning, the Applicant or its designee shall submit a Final Transition Plan to CAL FIRE/County Fire and San Luis Obispo County Planning and Building Department for review and approval. The Final Transition Plan shall be based on the Preliminary Transition Plan and incorporate any changes related to the final budget, staffing, timeframe, and other elements identified during negotiations. The Emergency Plan (Police Protection) shall also be updated to address the transition to post-decommissioning; it may be folded

into the Final Transition Plan and include the appropriate law enforcement agencies in the Joint-Agency Agreement, MOU, or similar mechanism.

PSU-1C: The Final Transition Plan shall be executed via Joint-Agency Agreement, MOU, or similar mechanism prior to the issuance of any County permits associated with Phase 2 decommissioning activities.

Plan Tracking and Reporting: Prior to any County decommissioning-related construction permit issuance, the Applicant or its designee shall submit the Plan Tracking and Reporting Form to the San Luis Obispo County Planning and Building for review and approval, along with copies of the updated plans. Throughout the duration of the Project, the Applicant or its designee shall record the Project activities requiring implementation of the recommendations identified in the plans and programs. Records should include, at a minimum, a brief description of the Project activity, date(s) of activities, and applicable plan recommendations that were implemented. Reporting shall include notification to San Luis Obispo County Planning and Building of any violations or issues that arise under each plan and how the issue was resolved. At the end of each year, by November 15 (no later than December 1), the Applicant or its designee shall submit the Plan Tracking and Reporting Form to the County along with documentation of any plan changes, as proof of implementation. The timeframe for submittal of the form may be modified as determined by the County.

PSU-2 **Retain the Diablo Canyon Fire Department and Emergency Facilities.** Prior to submittal of any decommissioning permit applications, the Applicant or its designee shall coordinate with CAL FIRE/County Fire on the site selection and demarcation of a suitable helicopter landing zone(s). Beginning in Phase 1, a suitable helicopter landing zone(s) shall be identified according to CAL FIRE/County Fire's standards and made available for CAL FIRE/County Fire's emergency use throughout decommissioning.

Throughout decommissioning Phases 1 and 2, the Applicant or its designee shall retain the existing Diablo Canyon Fire Department (DCFD) facilities (Fire Station), fire fighting vehicles and equipment, DCFD on-site firefighter positions, and the identified helicopter landing zone(s). The number of required firefighting positions once spent fuel is transferred to the ISFSI shall be in accordance with NFPA staffing standards. The facilities, firefighting vehicles and equipment, and helicopter landing zone(s), shall be kept and maintained in good working order during decommissioning. The Applicant or its designee shall continue to provide staffing in accordance with NFPA staffing standards and funding for on-site firefighting services and activities until the end of Phase 2.

Upon completion of the Project, a Joint-Agency Agreement or MOU shall be executed to enable CAL FIRE/County Fire to assume responsibility, operation, and maintenance of the DCFD facilities, firefighting vehicles and equipment, and provide County staffing in accordance with the National Fire Protection Association staffing standards and the Final Transition Plan pursuant to MM PSU-1.

At least 180 days prior to the planned transition from DCFD to CAL FIRE/County Fire, a Post-Decommissioning Operations Plan shall be developed by the Applicant or its designee and submitted to the San Luis Obispo County Planning and Building and CAL FIRE/County Fire for review. The Post-Decommissioning Operations Plan shall specify CAL FIRE/County Fire responsibilities, training and drills, and coordination with the Applicant regarding emergency response at the revised Owner-Controlled Area. The plan shall be executed as a Joint-Agency Agreement or MOU between the County, CAL FIRE/County Fire, law enforcement agencies (if included, per MM PSU-1), and the Applicant prior to the transition from DCFD to CAL FIRE/County Fire.

TRA-1 **Truck Transportation Outside of Peak Hours.** See Section 4.16.

TRA-2 **Specialty Heavy-Haul Transport Vehicle Transportation Management Plan.** See Section 4.16.

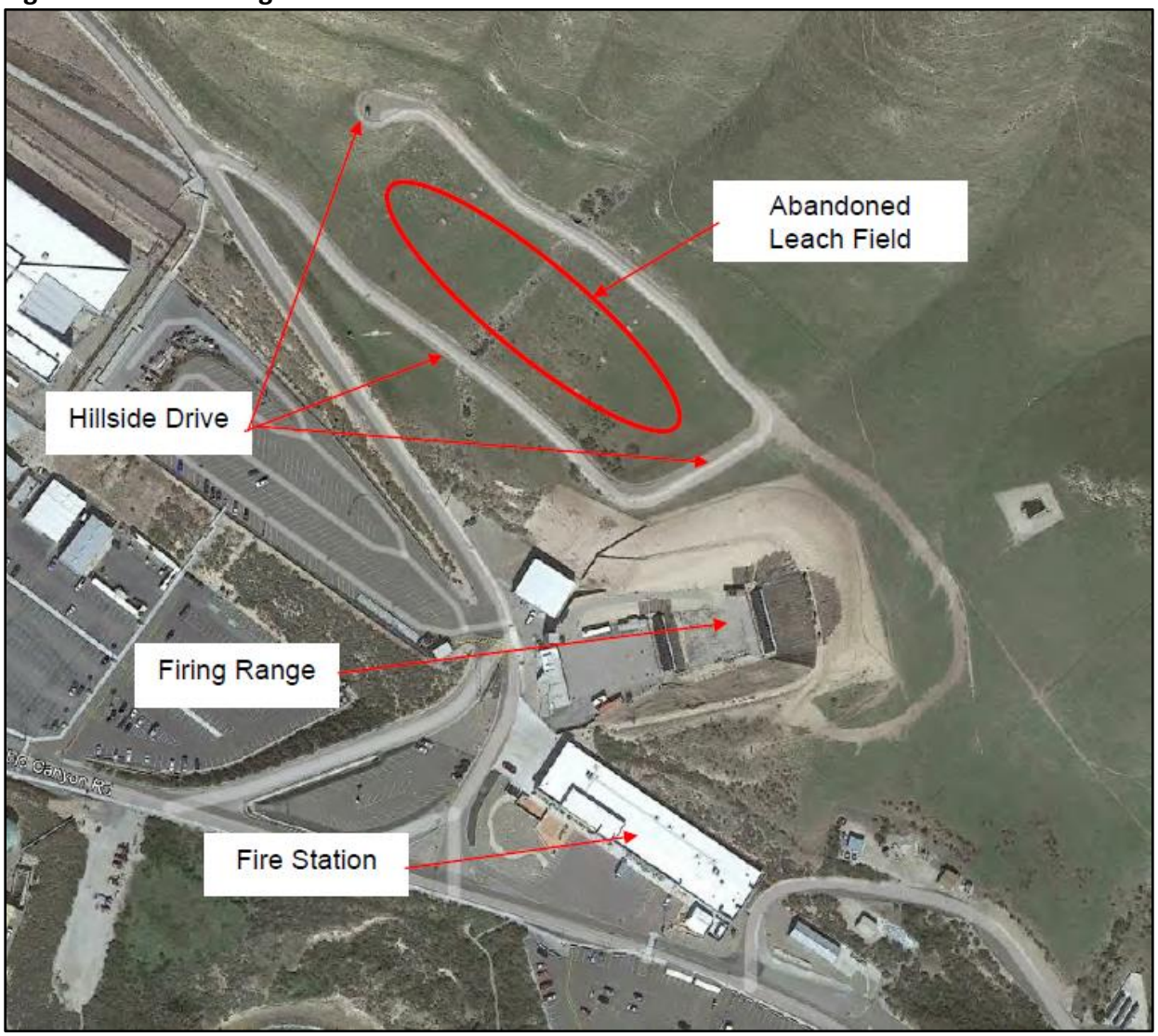
Impacts of Mitigation. Implementation of MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*) would result in the need for a septic and dispersal system to treat wastewater generated by staff at the DCFD Fire Station in perpetuity. Based on the Preliminary Engineering Geology Report, it is anticipated that the existing abandoned leach field adjacent to Hillside Drive, northwest of the Firing Range and DCFD Fire Station (see Figure 4.14-1), would be used to support the new septic and dispersal system (PG&E, 2023b). Additionally, Hillside Drive would be retained to support maintenance access to the leach field.

Restoring and retaining the leach field may lead to additional impacts associated with excavation, transport of materials, and future maintenance. Impacts associated with the leach field may include additional construction and operation air quality and greenhouse gas emissions from earth movement and transport of materials; biological resources impacts to upland communities during construction, including approximately 0.80 acre of wild oats and annual brome grassland and 1.11 acres of coyote brush scrub (see Figure 4.3-1 in Section 4.3, *Biological Resources – Terrestrial*); biological resources impacts relating to the potential to promote the spread of invasive and noxious weeds if the leach field fails during operation (similar to Impact BIO-2 in Section 4.3, *Biological Resources – Terrestrial)*; potential for exposing and impacting potentially sensitive cultural or tribal cultural resources during construction; potential for soil erosion during construction and associated water quality impacts; and noise associated with off-site trucking during construction.

These impacts would be considered less than significant because they would occur within an existing developed area, and impacts associated with restoration of the leach field would be temporary and cease once the leach field is restored. Operational impacts would be less than significant, as the area of impact is limited to the footprint of the leach field, and maintenance is expected to be minimal. In addition, new or replacement onsite wastewater treatment systems shall be designed and constructed to satisfy all applicable requirements of the County of San Luis Obispo Department of Building and Planning Local Agency Management Program (LAMP) for Onsite Wastewater Treatment Systems (OWTS), such as percolation testing, layout design, and proof of a potable water source. There is the potential to propagate invasive and noxious weeds if the restored leach field fails; however, these invasive species are likely to be limited within the area of the leach field due to differing soil conditions beyond the leach field footprint. Operation

of the DCFD would not require expanded off-site sewage treatment, as the leach field would provide on-site sewage treatment. Impacts associated with operation of the DCFD may include a slight increase in air quality and greenhouse gas emissions associated with periodic or as-needed inspections and maintenance of the leach field.

Figure 4.14-1. Existing Abandoned Leach Field on Hillside Drive



Source: PG&E, 2023b.

Impact PSU-2: Require relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities (Class III: Less than Significant).

Phase 1

DCPP Project Site

During Phase 1, there would be an overall decrease in the demand for utilities, as the majority of large buildings and components would be permanently disconnected from utilities before

demolition. However, once the plant ceases to produce energy, the power required throughout decommissioning for lighting, operation of the seawater reverse osmosis (SWRO) and other equipment, and power needed to maintain the security of the GTCC and ISFSI facilities post-decommissioning would come from the regional power grid. DCPP operations currently use 5 MW of power from the regional power grid (PG&E, 2021a); decommissioning is estimated to need up to 15 MW also from the regional power grid. This increase in electricity usage represents a small change (approximately 0.03%) in the context of California's historic peak loads of 47,121 MW to 52,061 MW, in 2020 or 2022, respectively (CAISO, 2023). The DCPP utilities not required to remain in service for decommissioning activities or for long-term operation of the ISFSI and new GTCC Waste Storage Facility or existing 230 kV/500 kV switchyard would be removed during decommissioning.

Phase 1 activities would require some modifications to existing infrastructure as well as construction of new infrastructure to transition the DCPP from an operational site to a decommissioning site, but these modifications would not require new or expanded utility facilities. Some of these modifications would require modifying, adding, or upgrading site utilities, such as relocating fire hydrants and underground piping, installing domestic and wastewater piping, and removing and relocating telecommunications technology equipment. However, none of these infrastructure modifications would require expanded utility services, as the majority of structures that require electric power would be removed or would rely on on-site wastewater infrastructure through the end of Phase 1.

The overall staffing at DCPP would also decrease as decommissioning progresses, further reducing the DCPP's need for utility services. Currently, DCPP has approximately 1,157 workers on site supporting existing operations (as of 2021), but generally employs up to approximately 1,400 workers under typical operating conditions. The number of workers would decrease to approximately 870 during Phase 1. The demand for water, wastewater treatment, natural gas, and telecommunications facilities would decrease from operational levels at the DCPP site during Phase 1.

To support the improvements in the revised OCA, an existing septic and dispersal system, designed and implemented circa 1968, which currently serves 10 toilets, 3 urinals, and 9 sinks for a building in the East Canyon Area, would be used (PG&E, 2023c). This septic and dispersal system would be upgraded, or a new septic system constructed, to ensure consistency with County ordinances related to sewage disposal systems and wastewater management and Regional Water Quality Control Board requirements. Based on the proposed facilities within the revised OCA, the anticipated footprint of this septic system is estimated to be between 10,000 and 20,000 square feet (see Section 2.3.3, *Site Infrastructure Modifications*). The temporary decommissioning office building off Decom Avenue would utilize the existing sanitary wastewater treatment plant through 2031 (end of Phase 1), at which point the office building would be decommissioned and no longer require wastewater service. As such, no new or expanded off-site, public wastewater treatment would be required. Therefore, impacts related to the construction of new or expanded utilities associated with the Proposed Project would be less than significant (Class III).

Railyards

Pismo Beach Railyard. No expanded utility services would be needed to support the proposed modifications or additional operations at the PBR. Utility services are already in place, and bottled water service would continue to be provided during decommissioning. Once waste transport operations are complete, utility services would remain the same as existing conditions. The impact would be less than significant at the PBR site (Class III).

SMVR-SB. Portable toilets and bottled water service, as well as portable power supplies would be utilized at the SMVR-SB site). The amount of wastewater generated from the portable toilets would not be large enough to require the need for expanded wastewater treatment infrastructure. No new utility services for water, wastewater, stormwater, electricity, natural gas, or telecommunications would be needed at the SMVR-SB site to support decommissioning activities. The impact would be less than significant at the SMVR-SB site (Class III).

Phase 2

Phase 2 activities would result in an overall decrease in demand for water, wastewater, electric, and telecommunications facilities. The number of workers would decrease from approximately 870 during Phase 1 to approximately 270 during Phase 2 and would continue to decrease until site remediation and final site restoration is complete, although there would be substantial truck traffic importing topsoil (1,760 one-way trips during Phase 2). After remediation and final site restoration, the only staff needed on site would be those required to monitor and protect the ISFSI and GTCC Waste Storage Facility. The existing septic and dispersal system in the East Canyon Area would be upgraded or replaced to support the revised OCA as part of Phase 1. No new or expanded public utility services would be required at the DCPP site during Phase 2. Therefore, the impact would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings within the revised OCA. Electricity use post-decommissioning would be nominal, consisting of security lighting and office uses. Water to the revised OCA would consist of groundwater from the existing wells. Aquifer testing on Well #2 and two monitoring wells (Wells #4 and #5) was conducted in July 2022 by Cascade Environmental, using hydraulic pumps and water level monitoring to conduct both step and constant rate testing. Results showed that Well #2 maintains a constant yield of 120 gallons per minute (gpm), equal to 63 million gallons per year, and Well #5, which is located approximately 300 feet away, can supplement Well #2 with up to 85 gpm. Well #4, which is located farther to the east outside the East Canyon developed area, showed a sustainable yield at 45 gpm, equating to 24 million gallons per year (PG&E, 2022c). The combined yield of Wells #2 and #5 is nearly equal to the DCPP's current average operational freshwater demand and more than adequate to serve as the supply for the revised OCA. The impact would be less than significant (Class III).

Future Actions. The Marina, established through the Proposed Project's retainment of the Breakwaters and Intake Structure, would be made available to a third party for permitting and reuse for recreational, education, or commercial purposes. Operations would include boating

activities and operation of the ancillary structures, upland parking lot, 2,000 square-foot building/ office for commercial purposes, and public restrooms. A septic and dispersal system would be constructed by a third party under separate land use and construction permits to support the future Marina operations. PG&E's expectation is this system would be located within existing developed areas of the DCPP site, such as the area where Lot 4B currently is located (see Figure 2-8) (ERM, 2023). The final location would depend on soil and groundwater conditions and be located and designed by a qualified professional in consultation with the County geologist. On-site wells would provide groundwater for use at the Marina. Water would not be used for boat washdown or engine clearance; this would need to be carried out at another facility, such as Port San Luis.

It is assumed for evaluation purposes that no more than 200 people per day may visit the Marina to use the facilities and operate small vessels or personal watercrafts. The Marina re-use assumptions include a maximum of 23 boats and up to 10 kayak or paddleboard users per day. and no more than five vessels would be permitted overnight accommodations in the Marina. As such, expanded utilities facilities (other than a new on-site septic and dispersal system) would not be required. Impacts would be less than significant (Class III).

Mitigation Measures for Impact PSU-2. No mitigation measures are required.

Impact PSU-3: Require water resources that exceed existing water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years (Class III: Less than Significant).

Phase 1

DCPP Project Site

The Proposed Project would not require water resources that exceed existing water supplies. The DCPP currently uses both SWRO and groundwater as sources of freshwater. Phase 1 water requirements include water for dust suppression, soil compaction, and domestic water use. Water demand estimates during Phase 1 would continue to use SWRO and groundwater, but at a reduced quantity from existing DCPP operations, which are approximately 101 million gallons annually (see Figure 2-36). As described in Section 2.3.20, *Water Management, including Management of the Seawater Reverse Osmosis Facility and Liquid Radioactive Waste*, SWRO and groundwater would be used to meet decommissioning water needs until 2031, when water requirements increase from about 5.5 million gallons annually in 2028 to approximately 32 million gallons by 2030. This increase in water would be used for dust control, dilution of waste streams, and watering for site restoration. Through 2034, water demand would be met primarily via SWRO and augmented via onsite groundwater, pending the successful acquisition of a new and/or amended National Pollutant Discharge Elimination System permit to continue SWRO operations (PG&E, 2022c).

Starting in 2035 when the SWRO is no longer in operation, and through post-restoration performance monitoring (2039), water use is projected to decrease and level out at approximately 764,000 gallons per year for completion of the remaining decommissioning activities and

vegetation watering. Well #2 is anticipated to have adequate capacity to meet the Phase 2 and post-decommissioning water needs; however, additional on-site wells may be used (PG&E 2021d– PD-10). Additionally, the existing water reservoirs would be retained for use as a firewater supply for protection of the ISFSI. Thus, water storage would remain available in the revised OCA for fire suppression.

As discussed above for Impact PSU-2, aquifer testing on Well #2 and two monitoring wells (Wells #4 and #5) was conducted in July 2022 by Cascade Environmental. Results showed that the combined yield of Wells #2 and #5 is nearly equal to the DCPP's current average operational freshwater demand and more than adequate to serve the revised OCA facilities and maintain the water storage ponds for fire suppression (PG&E, 2022c).

Decommissioning of the DCPP would demolish the SWRO facility, but its closure would not increase or reduce the region's water supplies, as the DCPP SWRO facility has only ever served DCPP operations. Therefore, demolition of the SWRO facility would not adversely affect San Luis Obispo County's water supply and would not cause an increase in demand for existing water supplies. The DCPP would use less water during Phase 1 compared to existing conditions, and the SWRO is expected to continue operating into Phase 2 (through 2034). Therefore, the Proposed Project's impact on regional water supplies would be less than significant (Class III).

Railyards

Pismo Beach Railyard. As discussed in Section 4.14.1, *Environmental Setting*, the PBR is not connected to wastewater services or water suppliers. Modifications to the PBR site would not involve ground disturbing activities (e.g., grading), such that water would not be used. Water would continue to be used for the existing sanitary facilities and bottled water service for existing on-site staff (there would be no additional employees). Modifications and operation of the PBR would not cause an increase in water use. Therefore, no impact would occur (No Impact).

SMVR-SB. As discussed in Section 4.14.1, *Environmental Setting*, the SMVR-SB is not connected to wastewater services or water suppliers. Modification of the site would not require additional water supply, as grading would not occur. Water would be used for portable toilets and bottled water service for on-site staff. The Proposed Project would not cause a substantial increase in water use, and once Phase 1 is complete, waste transport would cease, and water would no longer be needed. Therefore, the impact would be less than significant (Class III).

Phase 2

From 2030 to the end of 2034, approximately 32 million gallons of freshwater would be used annually. The water would be used for dust control, dilution of waste streams, and watering for site restoration. Starting in 2035, when the SWRO is no longer in operations and through post-restoration performance monitoring (2039), water use is projected to decrease and level out at approximately 764,000 gallons per year to complete the remaining decommissioning activities and vegetation watering (see Figure 2-37). After the SWRO ceases operations in early 2035, Well #2 is anticipated to have adequate capacity to meet the decommissioning-related activity water needs; however, additional on-site wells may be used (PG&E 2021d – PD-10). Based on aquifer

testing conducted by PG&E, Well #2 has adequate capacity to meet this water need and can be supplemented by Well #5 in the event of a drought (PG&E, 2022c). Once Phase 2 is complete, the Proposed Project would continue to use on-site well water at a rate that is within the tested water supply capacity of the existing wells on site. Therefore, the water needs would not exceed existing water supplies and impacts would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Once the final site restoration activities at the DCPP site are complete, the Proposed Project operations include ongoing security and management of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Annual water demand post-decommissioning within the revised OCA would serve fewer than 50 people per day at the site, and provide water to maintain the fire suppression storage ponds. Post-decommissioning water needs would be fully met through groundwater. Based on testing in drought conditions, the three existing groundwater wells (Wells #2, #4, and #5) are anticipated to adequately supply potable and fire suppression water to serve the remaining facilities in the revised OCA (PG&E, 2022c). The DCPP site would not require additional water resources that would exceed existing water supplies. As such, impacts would be less than significant (Class III).

Future Actions. Post-decommissioning, the Marina would be made available to a third party for permitting and reuse for recreational, education, or commercial purposes. Operations would include boating activities and operation of the ancillary structures, parking lots, and restrooms. For evaluation purposes, the Proposed Project assumes that no more than 200 people per day may visit the Marina to use the facilities. No new major structures requiring water supplies would be constructed, and no more than five vessels would be allowed overnight accommodations. Marina water needs would be fully met through groundwater. Based on testing in drought conditions, the three existing groundwater wells (Wells #2, #4, and #5) are anticipated to adequately supply long-term groundwater. Well #2 alone is estimated to supply over 63 million gallons of water per year. As a conservative calculation, assuming each of the 200 people at the Marina consumes the American average of 82 gallons of water a day, the Marina is expected to require approximately 6 million gallons of water per year (US Environmental Protection Agency [USEPA], 2023). Well #2, if used as the sole water supply source, would provide sufficient groundwater supplies for Marina operations. The DCPP site would not require additional water resources that would exceed existing water supplies. As such, impacts would be less than significant (Class III).

Mitigation Measures for Impact PSU-3. No mitigation measures are required.

Impact PSU-4: Generate wastewater that exceeds the capacity of the wastewater treatment provider (Class III: Less than Significant).

Phase 1

DCPP Project Site

The Proposed Project currently generates wastewater, including brine discharge from the SWRO facility, spent fuel pool (SFP) cooling, sanitary wastewater, processed liquid radiological wastewater, and other ancillary water services. The need for wastewater disposal would gradually

decrease over the course of the Proposed Project as infrastructure is decommissioned and removed from the site. As discussed in Section 4.14.1.2, *Utility Systems*, wastewater currently generated by the DCPP is primarily processed on site at the DCPP sanitary wastewater treatment plant. Once treated, the wastewater is discharged to the Pacific Ocean through the Discharge Structure in accordance with the requirements of the NPDES permit No. CA0003751 issued by the CCRWQCB. Wastewater would continue to be discharged to the Pacific Ocean in accordance with an NPDES permit until all liquid radiological waste discharge is complete near the end of Phase 1.

An existing septic and dispersal system, designed and implemented circa 1968 to serve the facilities in the East Canyon Area, would be upgraded, or a new septic system established to support the revised OCA. The wastewater system currently serves 10 toilets, 3 urinals, and 9 sinks and therefore would be sufficiently sized to support the Project's post-decommissioning wastewater needs, in accordance with the California Building Code.

The DCPP site would not generate additional wastewater during Phase 1 that would need to be treated by a wastewater treatment provider. Therefore, the impact would be less than significant (Class III).

Railyards

Pismo Beach Railyard. The PBR site has existing office trailers and restroom facilities (PG&E, 2021a). During Phase 1, workers would be on site to perform infrastructure modifications. There would be no additional employees. The PBR site would not generate a substantial amount of wastewater that would exceed existing conditions. Therefore, no impact would occur (No Impact).

SMVR-SB. The SMVR-SB site is not connected to wastewater services (PG&E, 2021a). During Phase 1, workers would be on site to perform infrastructure modifications. Portable toilets and bottled water service would be provided to on-site staff. Negligible amounts of wastewater would be generated by the portable toilets, which would likely be trucked off site and serviced by the portable toilet contractor. The SMVR-SB site would not generate a substantial amount of wastewater that would exceed the capacity of the local wastewater treatment provider. Therefore, the impact would be less than significant (Class III).

Phase 2

During Phase 2, as the number of on-site personnel decreases and site infrastructure is removed, the DCPP sanitary wastewater treatment plant would be removed and replaced with portable toilets (temporary during construction) with waste trucked off site. An existing septic system would be upgraded, or a new septic system constructed in the East Canyon as part of Phase 1 to support the revised OCA. This area would be supplemented by portable toilets during decommissioning (see Section 2.3.3). The amount of wastewater generated for treatment is not expected to be substantial, as the maximum number of workers on site during Phase 2 would be about 270 workers. As Phase 2 progresses, the number of workers would further decrease until the only staff needed on site would be those required to monitor and protect the ISFSI and GTCC Waste Storage Facility, which would utilize the upgraded or new septic system in the revised OCA. The decrease in activity and on-site workers would generate a minimal amount of waste-

water, and upgrade or construction of a new septic system in the revised OCA would provide for long-term wastewater treatment at the DCPP site. Therefore, the impact would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Once Phase 2 is complete, the security and management of the GTCC and ISFSI within the revised OCA would involve fewer than 50 people per day at the site. The existing on-site septic system in the East Canyon would be upgraded, or a new septic system constructed, to meet all requirements of the Central Coast Regional Water Quality Control Board and the County's Local Agency Management Plan (LAMP). The on-site septic system would be sufficiently sized to support revised OCA security operations. Therefore, the impact would be less than significant (Class III).

Future Actions. Operations at the Marina would include boating activities and use of the ancillary structures, upland parking lot, and restroom facility. Any re-use of the Marina by a third-party operator would be subject to a new County land use permit and construction permits. A new septic system would be installed to support the new Marina uses under separate permit (see Section 2.4.7.4) consistent with requirements of the Central Coast Regional Water Quality Control Board and the County's LAMP. Given this, impacts would less than significant (Class III).

Mitigation Measures for Impact PSU-4. No mitigation measures are required.

Impact PSU-5: Generate solid waste that exceeds federal, state, or local standards or the capacity of the solid waste disposal sites (Class III: Less than Significant).

Phase 1

DCPP Project Site

The DCPP would generate solid waste, which would be disposed of in compliance with all applicable regulations. Decommissioned materials would not be disposed of at California Class III landfills and unclassified waste management units in compliance with California Executive Order D-62-02, which prohibits the disposal of decommissioning waste within California. Instead, decommissioned materials resulting from Phase 1 activities would be disposed of at the sites identified in Section 2.3.19.3, *Disposal Sites*, including Waste Control Specialists in Andrews, Texas, and Energy Solutions in Clive, Utah. These facilities are permitted to readily accept and safely store irradiated waste in compliance with regulators such as the NRC, US Environmental Protection Agency, US Department of Transportation, and US Occupational Safety and Health Administration, and state agencies (Energy Solutions, 2022a).

Non-radioactive materials make up the majority of decommissioning waste from the Proposed Project, totaling over approximately 8.7 million cubic feet (PG&E, 2021a). The non-radioactive and radioactive waste destinations and their estimated capacities are provided in Table 4.14-3. As shown in Table 4.14-3, the waste destinations have sufficient capacity for the waste generated by the Proposed Project.

Table 4.14-3. Waste Destination Capacity

Destination	Destination Estimated Capacity
US Ecology in Nevada	232,000,000 ft^3
US Ecology Idaho	400,000,000 ft^3
Columbia Gorge Landfills	-
Columbia Ridge Landfill and Green Energy Plant[1, 2]	329,000,000 tons[2]
Chemical Waste Management of the Northwest	99,900,000 ft^3
Finley Buttes Landfill	132,000,000 tons
Wasco County Landfill[3]	73 years
Roosevelt Regional Landfill	5,000,000,000 ft^3
Waste Control Specialists in Andrews. Texas	26,000,000 ft^3
Energy Solutions, Clive, Utah[4]	270,000,000 ft^3

Source: Clark County 2020, Energy Solutions, 2021; Kitsap County Public Works Department, 2020; Nevada Division of Environmental Protection, 2021; US Ecology, 2022; Waste Control Specialists, 2022; Waste Management, 2022a, 2022b.

[1] There are five landfills in the Columbia Gorge area; waste could be transported to one or multiple landfills in the area.

[2] The remaining permitted capacity at Columbia Ridge Landfill and Green Energy Plant and Finley Buttes Landfill is provided in tons. The facilities have a projected remaining life of 143 years and 300 years, respectively.

[3] The capacity of Wasco County Landfill is not available as a volume; its estimated operating life is provided instead.

[4] The estimated capacity at Energy Solutions is the combined capacity of its Mixed Waste Disposal Facility (approximately 35 million ft^3) and Class A West Facility (approximately 235 million cubic ft^3) (Energy Solutions, 2021).

The Proposed Project includes plans to recycle or reuse as much solid waste materials as practicable, particularly clean concrete. Demolition activities are expected to generate an estimated 225,000 cubic yards (455,000 tons) of clean concrete that can be reused as engineered fill material for site restoration. PG&E developed a Concrete Reuse Plan (see Section 2.3.16.3, *Recycled Concrete*) to assess different methods and locations where on-site recycled concrete could be used. Reusing concrete on site would reduce the amount of solid waste that would be disposed of at off-site landfills.

After permanent shutdown, 2,542 SNF assemblies from Unit 1 and Unit 2 would be transferred to the ISFSI between approximately 2025 through 2029. The SNF to be stored in the ISFSI would be stored on site until an off-site interim storage facility or permanent repository is available. In addition, GTCC waste would be stored at a new GTCC Waste Storage Facility to be constructed in the revised OCA. Therefore, the storage of the SNF and GTCC waste would occur on site and would not affect the capacity of any off-site disposal facilities.

As the number of workers at the DCPP decreases during Phase 1, the amount of trash generated by workers would also decrease. Phase 1 would result in a reduction of worker-generated solid waste that would be sent to local landfills and would not generate solid waste that exceeds the capacity of solid waste disposal sites. The impact would be less than significant (Class III).

Railyards

Pismo Beach Railyard. Phase 1 activities at the PBR site include infrastructure modifications that would result in solid waste from refurbishing approximately 1,100 feet of railroad track. Solid waste would include railroad tracks and wood railroad ties. No ground disturbing activities are planned that would generate excavated waste.

South County Sanitary Services would dispose of the solid waste at one of several landfills such as Cold Canyon Landfill, Chicago Grade Landfill, North County Recycling, Paso Robles Landfill, or Santa Maria Transfer Station (Integrated Waste Management Authority, 2022). Considering the limited scope of infrastructure modification at PBR, the amount of solid waste generated would not exceed the capacity of any local landfills.

Existing PBR employees would be on site and would generate negligible amounts of trash and food waste that would not exceed existing conditions. The local landfills would have sufficient capacity to receive the small amounts of trash generated during the temporary operation of the PBR site. Once waste transport to the PBR site is completed by the end of Phase 1 (2033), the site would no longer be used, and no solid waste would be generated. Therefore, impacts would be less than significant (Class III).

SMVR-SB. Phase 1 activities at the SMVR-SB site would include infrastructure modifications that would result in the temporary generation of solid waste from refurbishment of existing rail spurs at the SMVR-SB site. Solid waste from rail structures and miscellaneous metal scraps would be generated during refurbishment. No ground disturbing activities are planned that would generate excavated waste.

The Santa Barbara County Resource Recovery and Waste Management Division would provide solid waste services to the SMVR-SB site. Solid waste would be transported to local landfills such as the Santa Maria Regional Landfill, which has a remaining capacity of over 2 million cubic yards (CalRecycle, 2018), and the Tajiguas Landfill, which has a remaining capacity of over 4 million cubic yards (CalRecycle, 2016). Activities at the SMVR-SB site would not generate solid waste in excess of the capacities of these landfills.

Approximately 10 employees would be at the SMVR-SB site only during active use of the site for waste transport. On-site employees would generate small amounts of trash and food waste. Employees would be on site for a limited period of time, as an average of one to six shipments would occur per month between 2024 and 2029, and waste shipment and operations would cease after Phase 1. The local landfills would have sufficient capacity to receive the small amounts of trash generated by these additional employees. Once waste transport by rail is completed, the SMVR-SB site would no longer be used, and no solid waste beyond baseline conditions would be generated. Therefore, the impact would be less than significant (Class III).

Phase 2

By the time Phase 2 begins, Units 1 and 2 would be decommissioned, and all major buildings and structures would be removed. Phase 2 activities at the DCPP site include contaminant remediation, demolition of remaining utilities and structures, soil grading, landscaping, and long-term stormwater management.

As indicated in Table 4.14-3, the waste destinations have sufficient capacity to accept the estimated 8.7 million cubic feet of non-radiological waste that make up the majority of the decommissioning waste generated by the Proposed Project. The amount of waste generated during Phase 2 would not exceed the available capacity of the waste destinations. Therefore, the impact would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Once Phase 2 is complete, the ongoing security and management of the GTCC and ISFSI facilities within the revised OCA would involve fewer than 50 people per day at the site. Solid waste generated by the security operations would be minimal. Impacts would be less than significant (Class III).

Future Actions. Operations at the Marina by a third-party operator under a separate County land Use permit would support day-use recreational, education, or commercial activities. The Proposed Project assumes that no more than 200 people per day would visit the site to operate small vessels and personal watercrafts. Users of the site would generate relatively small amounts of rubbish that would not exceed the capacity of solid waste disposal sites. The Marina would limit overnight accommodations to five vessels or fewer and would not include other uses that would generate large amounts of solid waste. Thus, the impact would be less than significant (Class III).

Mitigation Measures for Impact PSU-5. No mitigation measures are required.

Impact PSU-6: Conflict with federal, state, and local management and reduction statutes and regulations related to solid waste (Class III: Less than Significant).

Phase 1

DCPP Project Site

All waste generated by the Proposed Project would be disposed of in compliance with all applicable regulations, including EO D-62-02 and California Integrated Waste Management Act (Assembly Bill [AB] 939). The Proposed Project would comply with EO D-62-02 by avoiding disposal of decommissioned materials at California Class III landfills and unclassified waste management units in California. Decommissioned materials would be disposed of at the sites identified in Section 2.3.19.3, *Disposal Sites*, including Waste Control Specialists in Andrews, Texas, and Energy Solutions in Clive, Utah. These facilities are permitted to safely store irradiated waste in compliance with regulators such as the NRC, US Environmental Protection Agency, US Department of Transportation, and US Occupational Safety and Health Administration, and state agencies (Energy Solutions, 2022a).

The Proposed Project would comply with AB 939 to reduce, recycle, and reuse solid waste to the extent feasible. Materials such as concrete would be recycled as practicable. As discussed under Impact PSU-5, demolition activities are expected to generate an estimated 225,000 cubic yards of clean concrete that can be reused as engineered fill material for site restoration. A Concrete Reuse Plan (see Section 2.3.16.3, *Recycled Concrete*) would be followed to assess different methods and locations where on-site recycled concrete can be used to minimize the amount of concrete waste as possible. By recycling concrete, the Proposed Project would comply with AB 939.

On-site waste material handling areas, transportation options and routes, and the management and disposal of various decommissioning waste streams would be established. After permanent shutdown of Unit 1 and Unit 2, SNF assemblies would be transferred to the ISFSI between

approximately 2025 through 2029. The SNF to be stored in the ISFSI and the GTCC waste to be stored in the new GTCC Waste Storage Facility would be stored on site because there are no off-site facilities licensed for disposal of SNF and GTCC waste. Storage of the SNF and GTCC waste at the DCPP site would not conflict with regulations regarding licensed waste disposal sites. Therefore, the Proposed Project would not conflict with federal, state, or local management and reduction statutes and regulations related to solid waste. The impact would be less than significant (Class III).

Railyards

Pismo Beach Railyard. Infrastructure modifications at the PBR site would temporarily generate solid waste in the form of scrap metal, wood, and trash. Once operation of the PBR site begins for waste transport from the DCPP site, existing on-site staff would generate small amounts of trash similar to existing conditions. Trash would be disposed of in accordance with regulations such as AB 939. Proposed Project activities at the PBR site would not conflict with applicable solid waste regulations. Therefore, the impact would be less than significant (Class III).

SMVR-SB. Infrastructure modifications at either the SMVR-SB site would temporarily generate solid waste in the form of scrap metal, wood, and trash. Once operation of the SMVR-SB site begins, on-site staff would generate small amounts of trash. Proposed Project activities at the SMVR-SB site would comply with regulations such as AB 939 and would not conflict with applicable solid waste regulations. Therefore, the impact would be less than significant (Class III).

Phase 2

The remaining waste generated during Phase 2 is expected to be recyclable material and Class A waste (i.e., the least hazardous class of low-level radioactive waste). Separable recyclable metals would be trucked to the Port of Long Beach (for further processing/shipping) or shipped directly to a major recycling facility in Salt Lake City, Utah. Class A waste would be shipped to Energy Solutions in Clive, Utah, a permitted nuclear waste facility, in accordance with EO D-62-02. Phase 2 activities would not conflict with federal, state, or local management and reduction statutes and regulations related to solid waste. The impact would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations: Once Phase 2 is complete, the ongoing security and management of the GTCC and ISFSI facilities within the revised OCA would involve fewer than 50 people per day at the site. The activity would generate relatively small amounts of rubbish that would be disposed of in accordance with applicable federal, state, and local waste management statutes. Therefore, the impact would be less than significant (Class III).

Future Actions. Post-decommissioning, the Marina could be sublet (or other arrangement) to a third party for permitting and reuse for recreational, education, or commercial purposes. The Marina improvements would include installing a boat hoist and stairs on the Intake Structure and building a 2,000 square-foot building or office for commercial purposes, a public restroom supported by a septic and dispersal system, and parking facilities. It is assumed that up to 200

people per day would visit the Marina to use the facilities and operate small vessels or personal watercrafts. It is also assumed that there would be five employees working in support of the Marina operations. Users of the Marina would generate relatively small amounts of rubbish that would be disposed of in accordance with applicable federal, state, and local waste management statutes. Therefore, the impact would be less than significant (Class III).

Mitigation Measures for Impact PSU-6. No mitigation measures are required.

4.14.5 Cumulative Impact Analysis

Geographic Extent Context

The geographic scope for cumulative effects on public services and utilities is the area that includes the cumulative projects listed in Table 3-1 within the County of San Luis Obispo, County of Santa Barbara, City of Pismo Beach, and City of Santa Maria that would be served either temporarily or permanently by the same public services and utilities as the Proposed Project. Applicable cumulative projects are as follows:

Diablo Canyon Power Plant

- Orano System ISFISI Modifications (#1)

In Vicinity of Truck Route (City of Santa Maria)

- SerraMonte Townhomes (#15)
- Workforce Dormitories (#16)

Some of these cumulative projects would involve the construction of large residential developments that could result in a need for new or altered government facilities (SerraMonte Townhomes [#15] and Workforce Dormitories [#16]). The Orano System ISFSI Modifications (#1) would occur on the DCPP site and occur during Phase 1 activities. One offshore project within the County of San Luis Obispo that would likely be served by the same public services and utilities is the Port San Luis Breakwater Repair (#25); however, this project is expected to be conducted in 2023 and would not occur during Phase 1.

Cumulative Impact Analysis

Phase 1

Two cumulative projects, SerraMonte Townhomes (#15) and Workforce Dormitories (#16), are large residential developments that could result in a need for new or altered government facilities. The City of Santa Maria Fire Department, Santa Maria Police Department, County of Santa Barbara Public Works Department, City of Santa Maria Utilities Department, and Santa Barbara County Resource Recovery and Waste Management Division would provide public services and utilities services to these two cumulative projects. The DCPP would not be within the service radius of these departments. Project activities at the PBR and SMVR-SB sites would not contribute to a cumulatively considerable increase in demand for public services and utilities, as infrastructure modifications and waste transport activities would involve limited, temporary staff and not require new facilities or alterations to existing facilities. Additionally, some of the public

services that would serve the SerraMonte Townhomes (#15) and Workforce Dormitories (#16), including the City of Santa Maria Fire Department, Santa Maria Police Department, and City of Santa Maria Utilities Department, do not serve the DCPP, PBR, or SMVR-SB. The Orano System ISFSI Modifications (#1) would include the construction of precast horizontal storage modules. It would not result in a substantial or permanent increase in demand for public services or utilities once constructed. The Proposed Project would not result in a cumulatively considerable effect on existing water supply, wastewater treatment capacity, or local landfill capacity.

Phase 2

Phase 2 of the Proposed Project would have fewer impacts compared to Phase 1, as buildings and structures would have been removed and the number of workers on site would further decrease, reducing the need for public services and utilities. Although the cumulative projects may continue to have impacts to public services and utilities, Phase 2 of the Proposed Project's impacts would further reduce from Phase 1. As such, the Proposed Project would not contribute to a cumulatively considerable increase in the demand for public services and utilities.

Post-Decommissioning Operations

Post-decommissioning activities at the revised OCA would be minimal and limited to monitoring and security of the ISFSI and GTCC Waste Storage Facility. Staffing would be less than 50 people per day. Solid waste would be minimal, and post-decommissioning activities would not require expanded utilities or service systems. Similarly, operations at the Marina would not generate substantial amounts of solid waste or require expanded utilities or service systems. Thus, the Proposed Project would not contribute to a cumulatively considerable impact on public services and utilities.

4.14.6 Summary of Significance Findings

Table 4.14-4 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project.

Table 4.14-4. Summary of Impacts and Mitigation Measures – Public Services and Utilities

	Impact Significance Class				
	Phase 1		Phase 2	Post-Decom	
Impact Statement	**DCPP**	**PBR/SB**	**DCPP**	**Ops/Marina**	**Mitigation Measures**
PSU-1: Affect emergency services including response times for fire or police protection that could necessitate new or altered public services or government facilities	II	III/III	II	III/II	**CUL-10:** Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities **PSU-1:** Facility Plan Updating, Tracking, and Reporting **PSU-2:** Retain the Diablo Canyon Fire Department and Emergency Facilities **TRA-1:** Truck Transportation Outside of Peak Hours

Table 4.14-4. Summary of Impacts and Mitigation Measures – Public Services and Utilities

	Impact Significance Class				
	Phase 1		Phase 2	Post-Decom	
Impact Statement	**DCPP**	**PBR/SB**	**DCPP**	**Ops/Marina**	**Mitigation Measures**
					TRA-2: Specialty Heavy-Haul Transport Vehicle Transportation Management Plan
PSU-2: Require relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities	III	III/III	III	III/III	None required
PSU-3: Require water resources that exceed existing water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years	III	NI/III	III	III/III	None required
PSU-4: Generate wastewater that exceeds the capacity of the wastewater treatment provider	III	NI/III	III	III/III	None required
PSU-5: Generate solid waste that exceeds federal, state, or local standards or the capacity of the solid waste disposal sites	III	III/III	III	III/III	None required
PSU-6: Conflict with federal, state, and local management and reduction statutes and regulations related to solid waste	III	III/III	III	III/III	None required
Cumulative Impact	Not cumulatively considerable		Not cumulatively considerable		None required

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long-Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

4.15 Recreation and Public Access

This section describes existing recreational facilities and activities and public access opportunities in the vicinity of the DCPP Decommissioning Project. This section also evaluates Proposed Project compliance with applicable regulations and laws, identifies applicable significance thresholds, and evaluates the Proposed Project's impacts on recreational resources and public access.

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and considered in preparing this section:

- Address lack of public access on the coast due to the existing structures that would remain post-decommissioning, including the 230 and 500 kV switchyards, raw water reservoirs, intake structure, roads, and the east and west breakwaters.
- Address access to the Pecho Coast Trail, Point Buchon Trail and the 1,200-acre conservation set aside at Point San Luis, all required by prior permits approved by the California Coastal Commission (CCC).
- Consider extending the Pecho Coast Trail along the coastal bluffs in South Ranch, Parcel P, and North Ranch to connect to the Point Buchon Trail, completing an essential link in the California Coastal Trail between Port San Luis and Montaña de Oro.
- Include a more detailed discussion of why PG&E was required to open the Pecho Coast Trail as mitigation for the Training/Simulator Building, open the Buchon Trail as mitigation for the Independent Spent Fuel Storage Installation (ISFSI), and set aside 1,200 acres for conservation at Point San Luis as mitigation for the Steam Generator Replacement Project.
- Consider future historic landmarks along the Coastal Trail that would interpret past land uses associated with the DCPP site.
- Include guarantee of conservation and public access, in perpetuity, of Diablo Canyon Lands including the use of conservation easements.
- Include the 2000 DREAM Initiative in the discussion. This was a ballot initiative (Diablo Resources Advisory Measure, also known as Measure A) that was supported by nearly 75 percent of San Luis Obispo County (County) residents in November 2000 to conserve and provide public access to all the Diablo Canyon Lands upon the plant's closure.

4.15.1 Environmental Setting

PG&E or Eureka Energy (Eureka) owns or controls approximately 12,000 acres in and around the DCPP, with about 4,000 acres of those lands within the coastal zone (California Coastal Commission [CCC], 2009). These Diablo Canyon Lands cover about 12 miles of coastline. Although public access at the DCPP site in the coastal zone is limited due to security and safety reasons, several recreational resources are available in the vicinity, including pedestrian hiking opportunities located north and south of the DCPP site that were previously required and permitted by the CCC. No recreational access exists through the DCPP high-security zone.

4.15.1.1 San Luis Obispo County Recreational Resources

As noted in Table 4.15-1, there are roughly 23 parks, three golf courses, and eight Special Places operated by the San Luis Obispo County Parks Department. Special Places include natural areas, coastal access, and historic facilities. Natural area is defined as land protected for its resources, which may also afford some passive recreation (San Luis Obispo, 2006).

Each incorporated city within the County also provides its own system of parks and recreation. Within the County's unincorporated areas, there are very few neighborhood parks. The County recreational resources offer general outdoor, rural experiences with hiking, biking, and other trail uses. Parks are also provided by State and federal agencies. These parks provide important areas for nature appreciation and often coastal access. The California Department of Parks and Recreation provides large parks in the County, such as Montaña de Oro described in detail below, offering trails, beach access, camping, access to historic facilities, and/or nature appreciation.

Table 4.15-1. San Luis Obispo County Parks Inventory

Park Name	Location	Park Acres	Natural Area Acres
Regional Parks (Urban)			
Biddle Park	Arroyo Grande	27	20
Duveneck Park (undeveloped)	Templeton	80	0
El Chorro Park	San Luis Obispo	40	450
Heilmann Park	Atascadero	102	0
Coastal Dunes RV Park	Oceano	5	0
Total Regional Parks (Urban)		*254*	*470*
Regional Parks (Rural)			
Lopez Lake Recreation Area	Arroyo Grande	200	4,076
Santa Margarita Lake Park	Santa Margarita	21	7,101
Total Regional Park (Rural)		*221*	*11,177*
Mini, Neighborhood and Community Parks			
Avila Park/Plaza	Avila	2.5	0
Cuesta Park	San Luis Obispo	5	0
C.W. Clarke Park	Shandon	11.5	0
Hardie Park	Cayucos	4	0
Lampton Cliffs Park	Cambria	2.2	0
Los Osos Community Park	Los Osos	6.2	0
Norma Rose Park (undeveloped)	Cayucos	1.5	0
Nipomo Community Park	Nipomo	74	80
Oceano Memorial Park	Oceano	11.8	0
Paul Andrew Park	Cayucos	1	0
Jack Ready Park (undeveloped)	Nipomo	30	0

Table 4.15-1. San Luis Obispo County Parks Inventory

Park Name	Location	Park Acres	Natural Area Acres
San Miguel Park	San Miguel	4.5	0
Santa Margarita Community Park	Santa Margarita	2	0
See Canyon Park (undeveloped)	Avila Valley	8.7	0
Shamel Park	Cambria	6	0
Templeton Park	Templeton	3.5	0
Toro Creek Park	Cayucos	0	258
Total Mini, Neighborhood and Community Parks		*174.4*	*338*
Special Places (Natural Areas, Coastal Accessways, Historic Sites)			
Bishop Peak	San Luis Obispo	0	104.3
Cave Landing Natural Area	Avila Valley	1	58
Cayucos Beach	Cayucos	14	0
Coastal Accessways	Coastal Area	7.3	0
Dana Adobe Viewshed	Nipomo	0	100.3
Elfin Forest	Los Osos	0	38.7
Wolf Natural Area	San Miguel	0	58
Monarch Grove	Los Osos	0	18
Mesa Meadows	Nipomo	0	20
Rios Caledonia Adobe	San Miguel	2.8	0
Total Special Places		*25.1*	*397.3*
Golf Courses			
Chalk Mountain GC	Atascadero	212	0
Dairy Creek GC	San Luis Obispo	224	0
Morro Bay GC (State Parks Owned, County operated)	Morro Bay	125	0
Total Golf Courses		*561*	*0*
Trails and Staging Areas (Outside Parks)			
Bob Jones Pathway	Avila Valley	1.8	0
Cypress Ridge Trail	Nipomo	1	0
Hi Mountain Trail and Staging Areas	Huasna	7	0
San Miguel Staging Area (Salinas River)	San Miguel	2	0
	Total Trails	*11.8*	*0*
Total Operated Acreage		**1,467.3**	**12,382.3**

Source: San Luis Obispo, 2006 (Table 1 – County Parks Inventory, p.13) – revised.

4.15.1.2 Recreation and Public Access Resources on the Diablo Canyon Lands

Limited public access to trails and beaches is provided on lands outside (north and south) of the DCPP decommissioning project boundary (see Figure 2-7), as described below. Each of these recreation and public access resources were required to be developed and maintained through prior Coastal Development Permits (CDP), which were approved by the CCC, as described below.

Point Buchon Trail

Coastal Development Permit (CDP) A-3-SLO-04-035 was approved by the CCC in 2004, after an appeal of the County's locally issued CDP. The CCC permit adopted the County's conditions and established additional conditions to mitigate the impacts to public access, in perpetuity, imposed by the construction of an ISFSI at the DCPP (CCC, 2004). Under Special Condition 3 of CDP A-3-SLO-04-035, PG&E was required to provide a deed restriction for the Point Buchon Trail (see Figure 4.15-1) along with other public access components to ensure legal protection of public access in perpetuity (CCC, 2004). Special Condition 3 also required access at the following locations: (1) lateral bluff top access to approximately 3 miles of coastline along the northern portion of the Diablo Canyon Lands between Montaña de Oro State Park and Crowbar Creek with at least three opportunities for access to coastal viewing areas on projecting land promontories (Point Buchon Trail), (2) vertical access to at least one beach in the northern portion of the Diablo Canyon Lands (Coon Creek Beach, near the northern boundary of PG&E's lands); lateral access along that beach; and (3) increased access to the Pecho Coast Trail (described below) on the southern portion of the Diablo Canyon Lands, as allowed within the provisions of the Pecho Coast Trail Accessway Management Plan and the Memorandum of Understanding governing that Plan (CCC, 2004).

Figure 4.15-1. Point Buchon Trail

Source: PG&E, 2021a (modified).

In its approval findings, the CCC evaluated the expected impacts of the ISFSI project on public access to and along the shoreline in the Diablo Canyon Lands. The CCC findings noted that, in addition to California Coastal Act (CCA) policies and the County's Local Coastal Program (LCP) policies, and pursuant to State and federal law, public access established as part of a permit decision must generally be based on an appropriate nexus between the proposed project's effects on access and the measures taken to establish access (CCC, 2004). Thus, the CCC's findings noted that there must be a "nexus determination" (or credible relationship) between any loss of access caused by the ISFSI project and the measures required to replace or regain that access and the measures must be proportional to the ISFSI project's effects (CCC, 2004).

As a legal basis for approval of public access requirements, the CCC's findings included a nexus determination and a rough proportionality analysis to determine the extent of lost access caused by the ISFSI project (CCC, 2004). The CCC evaluated several issues related to the need for and purpose of the ISFSI, including the lack of an alternative permanent storage facility for spent nuclear fuel (SNF) and unresolved issues about the remaining useful life of the DCPP, which was determined in that report to be the existing cause of lost shoreline access along that particular stretch of the coast (CCC, 2004). Because other alternatives for storing the SNF were determined to be unavailable, infeasible, or would cause greater adverse risk to public health and the environment; and because the ISFSI extended the life of the DCPP, the CCC staff report found that the ISFSI would be present on the site for the foreseeable future and would therefore cause loss of access to part of the California shoreline in perpetuity (CCC, 2004). Thus, the CCC imposed Special Condition 3 of CDP A-3-SLO-04-035, which required PG&E to address the loss of access by providing several accessways on the Diablo Canyon Lands to the north and south of the high-security zone, as identified above, as well as by implementing various management measures, identifying the improvements necessary to provide at least the equivalent of the lost level of access, and protecting those accessways in perpetuity through deed restrictions (CCC, 2004).

The 6.6-mile (roundtrip) Point Buchon Trail developed per CCC requirements was opened to the public in July 2007 and is known for its panoramic views of beautiful headlands and offshore sea stacks (PG&E, 2021a). The trail is open Thursday through Monday year-round except on major holidays. Access is limited to 275 visitors per day (PG&E, 2021a). The parking area for the trail is located off PG&E property, near the existing Coon Creek trailhead at Montaña de Oro State Park (PG&E, 2021a). The parking area includes a State-maintained public restroom. Hikers proceed from the parking area in Montaña de Oro State Park across Coon Creek Bridge to a registration kiosk/trail attendant station on PG&E property to check-in. At the kiosk, hikers are required to check in, and check out again upon leaving the property. Summer hours are 8:00 a.m. to 5:00 p.m. and the trail closes at 4:00 p.m. in the winter (PG&E, 2021a). Trail users are required to check out no later than 15 minutes before the seasonal closing time. Based on the Rules and Regulations for the Point Buchon Trail, users requesting access to the trail might be subject to a security check (PG&E, 2023a). This process allows PG&E to track visitor numbers and helps support site security and emergency response should a hiker not check out at the end of the day or if the trail needs to be evacuated in an emergency. The trail extends from the kiosk at the southern boundary of Montaña de Oro State Park to Crowbar Canyon, just north of DCPP. The trail also includes a public beach access point at the mouth of Coon Creek (see Figure 4.15-1). PG&E offers access to the trail five days a week to up to 275 people per day, for up to a total of 71,500 visitors per year, which is below the 100,000 visitors per year total established in A-3-SLO-04-035 as adopted by the CCC. The most recent data available from PG&E shows that 12,693 people used the Point Buchon Trail in 2021 and 14,505 people used the trail in 2022, with the highest use generally during the summer months, in addition to the spring months of March and April (PG&E, 2022b).[44] Prior to the COVID-19 Pandemic, the number of visitors to the Point Buchon Trail averaged approximately 16,691 per year in 2015-2019 (PG&E, 2023c).

[44] The Point Buchon Trail reopened on March 1, 2021 after it closed in March 2020 due to the Covid-19 pandemic. For 2022, this count goes through mid-August. For comparison, 16,953 people used the trail in 2018 and 16,591 in 2019 (PG&E, 2023c).

Pecho Coast/Rattlesnake Canyon Trail

The Pecho Coast/Rattlesnake Canyon Trail is located on the south end of PG&E property and accessed through Port San Luis (see Figure 4.15-2). The trail ends approximately 3.7 miles south of the DCPP high-security zone. The trail is a result of the public access requirements of CDP No. A-4-82-593 issued by the CCC in 1983 for construction of PG&E's Simulator Building at DCPP. That permit required PG&E to develop a public access plan to provide coastal access within the Diablo Canyon Lands. As part of that project, PG&E paid $195,000 into an escrow account for developing and maintaining the trail improvements. (CCC, 2008). The Nature Conservancy was appointed the Pecho Coast Trail Management Agency on February 18, 1992, and acted in that capacity until 1996, when the organization resigned from that role (CCC, 1997). After an unsuccessful search for a new management agency in 1997, PG&E volunteered to be an interim management agency and has since maintained the trail. PG&E clears the trails and ensures their continued maintenance with funding through its Land Stewardship Program (PG&E, 2023b).

Figure 4.15-2. Pecho Coast/Rattlesnake Canyon Trails

Source: PG&E, 2021b (modified).

The Pecho Coast/Rattlesnake Canyon Trail was opened to the public in 1993 via the CCC-approved operational agreement in which The Nature Conservancy agreed to maintain and take liability for public access of the trail as defined in PG&E's Access Management Plan (CCC, 1997). The trail, which spans from the Fishermen's Memorial north of Port San Luis to Rattlesnake Canyon, is known for its panoramic views of Avila Beach (PG&E, 2021b). The trail allows the public to access portions of the coastline that had been closed since the Spanish mission days. All hikes are required to be docent-led, and two routes are available: (1) a 3.75-mile roundtrip hike from Port San Luis to the Point San Luis Lighthouse (Pecho Coast Trail) or (2) an 8-mile roundtrip hike continuing from the Point San Luis Lighthouse, around Point San Luis, and north to Rattlesnake Canyon (Rattlesnake Canyon Trail) (PG&E, 2021b). Visitors can enjoy a short docent-led tour of the lighthouse for a fee on Wednesdays and Saturdays (Point San Luis Lighthouse, n.d.). Due to concerns regarding security, sensitive biological resources, and public safety hazards, all hikers must pre-register with PG&E and a docent must lead all hikers and/or lighthouse visitors. Hikes are currently offered year-round, except on major holidays, for groups of up to 20 hikers on the first Monday of each month for the Rattlesnake Canyon trail and up to 40 hikers on Wednesdays and Saturdays for the Pecho Coast Trail (PG&E, 2021b; 2023d). Reservations are required for both hikes, and they are both contingent upon the availability of trained docents to lead hikers. CDP A-3-SLO-04-035 (related

to the ISFSI and Point Buchon Trail development) also required PG&E to include a plan to increase access to the Pecho Coast Trail, because the approved Access Management Plan for the Pecho Coast Trails found that PG&E could provide hikes daily, rather than only twice per week (CCC, 2004). The most recent data available from PG&E for the Pecho Coast trail recorded 800 trail users in 2021 and 942 trail users in 2022 (PG&E, 2022b).[45]

4.15.1.3 Recreation and Public Access Resources in the Vicinity of DCPP

Montaña de Oro State Park

Montaña de Oro State Park is located 6 miles southwest of Los Osos and 7 miles south of the southern edge of Morro Bay. The main access point via passenger vehicle is on Pecho Valley Road. It is one of California's largest state parks and includes 7 miles of coastline. The park features rugged cliffs, secluded sandy beaches, coastal plains, streams, canyons, and hills, including 1,347-foot Valencia Peak. Golden yellow wildflowers give the park its name, "Mountain of Gold," and the colorful display from spring into summer is one of the park's most appealing features. More than half a million people visit Montaña de Oro each year to go camping, hiking, biking, horseback riding, and surfing. Almost 50 miles of trails are available to hikers, and some trails are open to equestrians and mountain bikers. (DPR, 2016) Access to the park is currently limited to trails and roads coming from the north, as the Point Buchon Trail to the south is limited to out-and-back hiking towards DCPP, and no vehicle travel is authorized beyond the Coon Creek trailhead parking lot.

The main activity center at the park is at Spooner's Cove, where a historic dairy farmhouse serves as the park ranger headquarters and visitor center, operated by the Central Coast Natural History Association. In the canyon behind the visitor center are approximately 50 campsites suitable for tents, trailers, or RVs. Spooner's Cove has a broad, sandy, easily accessible beach, flanked by sea cliffs. Other camping facilities include walk-in primitive campsites and group campsites, as well as equestrian sites. (CCC, 2007; DPR, 2016)

Also, Montaña de Oro is home to Camp KEEP, the Kern Environmental Education Program that has hosted five-day environmental science education camps for adolescents on the California coast since 1971. Day use hours are year-round from 6:00 a.m. to 10:00 p.m. The site is used by Kern County to host environmental education programs when it is safe to do so given wildfire and other environmental risks. The site is currently only accessible through the KEEP camping program (DPR, 2016).

Port San Luis and Avila Beach

Port San Luis is approximately 6 miles from DCPP, with public entrances across the street from the DCPP security entrance along Avila Beach Drive, which is controlled by the County of San Luis Obispo and serves as the primary access road for DCPP (CCC, 2007; Port San Luis Harbor District, 2021a). The primary boating access points in Port San Luis occur at the launches on Harford

[45] The Pecho Coast/Rattlesnake Canyon Trail reopened on March 1, 2021 after it was closed due to the Covid-19 pandemic in March 2020. For 2022, this count goes through mid-August 2022. For comparison, 1,896 people used the trail in 2018 and 1,804 in 2019 (PG&E, 2023c).

Landing and the hoists and landings at Harford Pier. To a lesser extent, boating access also occurs at the hoist and landing at Avila Pier and the small boat ramp at Olde Port Beach. (CCC, 2007)

The Port San Luis Harbor District owns and controls both land and tideland properties at San Luis Obispo Bay, bounded by Point San Luis on the west, Irish Hills to the north, Sunset Palisades on the east, and the southerly ocean area 3 miles seaward. This includes Avila Pier, Avila Beach, Avila Beach Community Park, Olde Port Beach, Harbor Terrace (now called Flying Flags Avila Beach), Harford Landing and Pier, and the Point San Luis Lighthouse.

Port San Luis was constructed in the 19th century to serve the inland town of San Luis Obispo. The Port, originally known as Port Harford, served the whaling industry in the late 19th century and was a major oil port during World War II. Today, Port San Luis is a sport and commercial fishing center, offering several recreational opportunities, including boating and water sports, sport fishing, and recreational vehicle camping. There are four designated areas for recreational vehicles (RV) available at Port San Luis, each offering multiple RV campsites.

Currently, there are approximately 175 boat mooring spaces in the main harbor divided among recreational power and sailing vessels, commercial fishing, guest spaces, and about a dozen moorings on the west side of Avila Pier (Port San Luis Harbor District, 2023c). Up to 100 of the mooring spaces are reserved for commercial fishing occupancy. There are no boat slips (Lisa Wise Consulting, 2008).

Facilities include a 1,000-pound boat hoist at the base of Hanford Pier, diesel fuel and ice sales, a pump out facility, boat wash-down area, trailered boat storage, and trailer parking. There is a trailer boat launch with a 15,000-pound hoist and a mobile boat hoist capable of lifting boats up to 50 tons. The Port's sport fishing launch opens at 6:00 a.m. Monday through Friday and 5:30 a.m. on the weekends. It closes at 4:00 p.m. every day (Port San Luis SportLaunch, 2023). Sports fishermen typically begin queuing for launch times at 5:00 a.m. (Port San Luis Harbor District, 2023a, 2023c). Commercial fisherman and wholesale commercial fish buyers access the pier at all hours, as do pier fishing patrons (Port San Luis Harbor District, 2023c). The Port also provides camping accommodations. It has eight RV camping sites with hook-ups at Coastal Gateways and 12 boat trailer dry camping sites on Harford Landing. In addition, immediately east of the Harford Landing entrance on Avila Beach Drive, there are 13 dry camping sites at Woodyard and six dry camping sites at Nobi Point (Port San Luis Harbor District, 2023d).

Port San Luis Harbor District largely enforces the parking regulations for Harford Landing and Pier and issues overnight vehicle parking permits for Harford Landing. Parking permits for unlimited overnight parking are available for Harbor District permitted commercial fisherman, mooring lessees, and those in possession of one of the five available live aboard permits. Non-Port San Luis commercial fishermen, sports fisherman, mooring patrons, and patrons not able to safely drive their vehicles may obtain a temporary permit allowing up to 3 days of vehicle parking (Port San Luis Harbor District, 2021c).

Fishing Piers

Port San Luis has two established public fishing piers: Avila Pier and Harford Pier. Harford Pier is a 1,340-foot-long drive-on pier that offers public fishing, fish sales, restaurants, and views of the bay. No license is required for fishing from the pier, which is lighted at night. Charter boat trips,

fishing equipment, and fishing licenses are available. The Harford Landing and Pier are open 24 hours, seven days a week.

Additionally, the 1,635-foot-long Avila Pier, which was constructed in 1908, extends from the middle of Avila Beach (CCC, 2007). Avila Pier suffered substantial storm damage, which lead to the pier being closed in 2015 due to structural instability (Port San Luis Harbor District, n.d.). Avila Pier is now in the process of being restored. It is anticipated to be reopened in late 2024 (Port San Luis Harbor District, 2023b). When the pier was open, no license was required for pier fishing and bait and tackle were sold on the public pier, which included a fish-cleaning station and public boat landing (CCC, 2007).

Public Beaches

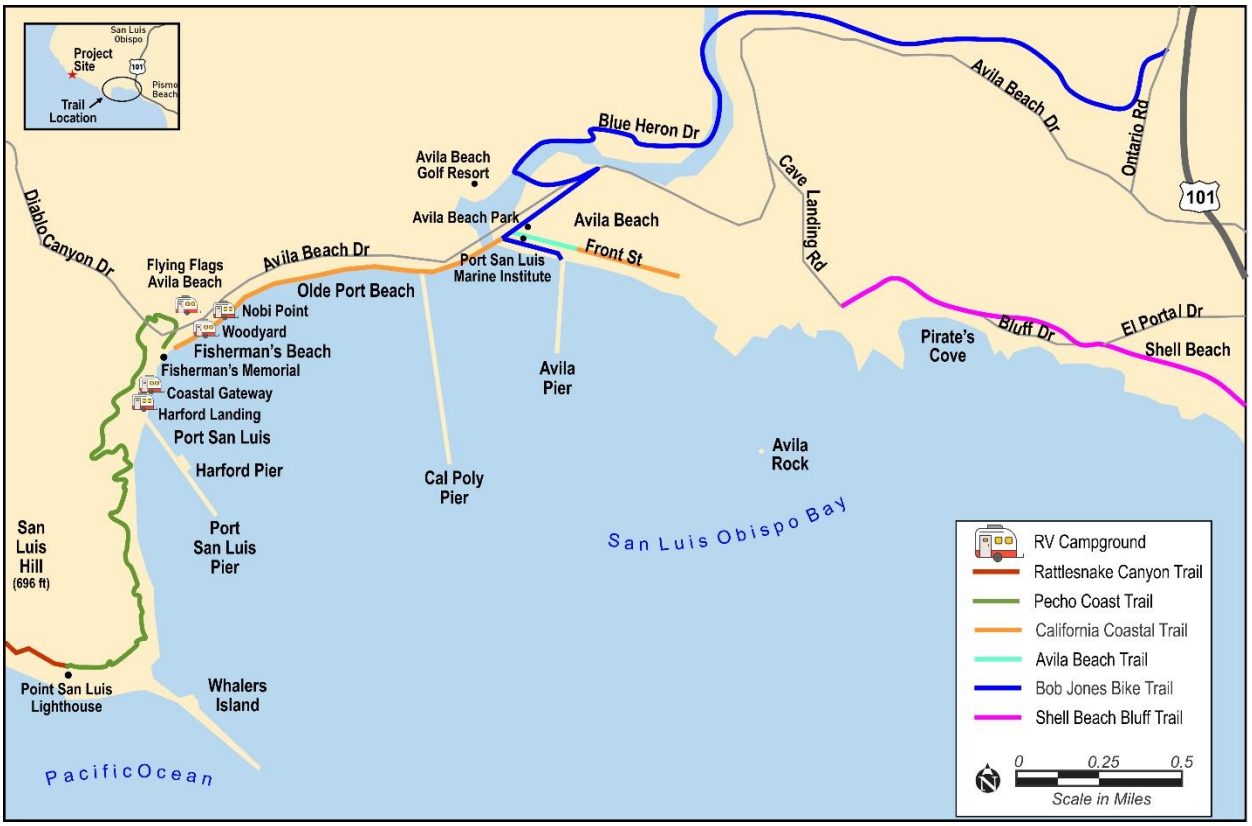
Avila Beach is a wide sandy beach downcoast from, and sheltered by, Point San Luis. Avila is popular for swimming, kayaking, and water-related sports. Volleyball nets, picnic tables, barbecues, restrooms, and outdoor showers are available for public use, and there are seasonal lifeguards and beach equipment rentals. (CCC, 2007)

Olde Port Beach is located upcoast (westward) from Avila Beach and is closer to Port San Luis (see Figure 4.15-3). It is permissible to drive down the slope onto this wide, sandy beach to load or unload boats; however, no parking is allowed on the sand. Swimming, surfing, windsurfing, kayaking, diving, and dog walking are popular activities on Olde Port Beach. Restrooms and Americans with Disabilities Act (ADA) access are provided.

Fisherman's Beach

Fisherman's Beach is the smallest and most westward public beach located along Avila Beach Drive, furthest from the town of Avila Beach. Day-use car parking spots are available along the road shoulder outside of the camping areas. Parking is prohibited from 2:00 a.m. to 6:00 a.m. daily. Camping is not allowed on the road shoulders but as described above, there are two campsites, Nobi Point and Woodyard, managed by the Port San Luis Harbor District near Fisherman's Beach. Across from Fisherman's Beach, there is a Fishermen's Memorial with the names of those lost at sea and a seating area (California Beaches, 2022). The Fishermen's Memorial is also the trailhead for the Pecho Coast Trail (PG&E, 2021b).

Figure 4.15-3. San Luis Obispo Bay Recreational Resources



Source: CCC, 2007 (revised); ArcGIS Online, 2022; Port San Luis Harbor District, 2023d.

Educational Activities

Central Coast Aquarium, formerly known as the Port San Luis Marine Life Institute, is a non-profit organization that provides ocean-related educational opportunities. Programs take place aboard boats and in the marine science education center and aquarium, located adjacent to Avila Beach Park. The Exhibit Hall is open for public access every day but Monday from 10:00 a.m. to 4:00 p.m. year-round. (Central Coast Aquarium, 2022)

Bob Jones Bike Trail

The Bob Jones City-to-the-Sea Trail (Bob Jones Bike Trail) is a 2.5-mile bike trail that follows the Pacific Coast Railroad right-of-way from Ontario Road, along San Luis Obispo Creek to the Avila Beach pier. This trail is a paved, County-maintained trail used for running, biking, and hiking. Dogs on leash are allowed. The southwestern trail terminus at Avila Beach pier is approximately 7 miles from DCPP. (CCC, 2007)

Bluff Trail

A paved path, beginning at a parking lot at the west end of Bluff Drive off El Portal Avenue in Shell Beach, runs along part of the bluff towards Avila Beach. Completion of the paved trail west to Cave Landing Road and Avila Beach would form a segment of the statewide California Coastal Trail for use by hikers and bikers. (CCC, 2007)

Avila Beach Community Park

Avila Beach Community Park contains a pirate-ship play structure, basketball courts, picnic tables, restrooms, and barbecue grills in a grassy park (CCC, 2007).

4.15.1.4 Recreational Resources in the Vicinity of the Pismo Beach Railyard

The PBR site is located within the City of Pismo Beach. Bicycling, walking, hiking, swimming, surfing, and running are among the many popular recreational activities within the city, which has easy access to the Pacific Ocean and a long beach area. The city also contains both state and local parks and recreational areas, comprising a total of 106 acres dedicated to open space, with another 229 acres of recreational areas (Pismo Beach, 2014). The PBR is located near several recreational facilities including:

- Price Historic Park, a 4-acre park with hiking and biking trails and open space, located approximately 0.1 miles east
- Pismo Beach Sports Complex, a 5.5-acre park that includes three ball fields, located approximately 0.23 miles south
- Highland Park, a 7-acre park equipped with picnic areas and a playground, located approximately 0.45 miles east
- Boosinger Park, a small neighborhood park with play equipment and picnic areas, located approximately 0.23 miles west

Trails and bikeways are an important focus area for Pismo Beach and are emphasized in the Pismo Beach General Plan/Local Coastal Plan. The Juan Bautista de Anza National Historic Trail passes less than 500 feet from the PBR at the intersection of Bello Street and Frady Lane. An existing Class I bicycle and pedestrian trail is also located along the Pismo Creek/Juan Bautista de Anza Trail along the eastern boundary of Pismo Creek and extends to Price Historic Park, northeast of the PBR. (Pismo Beach, 1998; 2014)

4.15.1.5 Recreational Resources in the Vicinity of the Santa Maria Valley Railroad Site

SMVR-SB

Santa Barbara County provides extensive indoor and outdoor recreational opportunities for active and passive use. Open space for outdoor, active recreation areas in Santa Barbara County include beaches and Community/Regional Parks. Additional recreational opportunities in Santa Barbara County include wilderness areas for hiking and backpacking and aquatic areas suitable for boating and swimming. Natural and scenic areas, such as natural preserves, are permitted for passive recreation only and with limited activities. Other types of recreation such as golfing, riding academies, and campgrounds are also available and contain both public and private access.

The SMVR-SB site (Betteravia Industrial Park) is located at 2820 W. Betteravia Road just west of the City of Santa Maria and south of Guadalupe. There are no existing recreational resources at or immediately adjacent to the SMVR-SB site because it is in a highly industrial area. (Santa Barbara, 2016)

4.15.2 Regulatory Setting

This section summarizes the regulatory setting for public access and recreational resources. It includes the identified local recreation policies and ordinances applicable to the Proposed Project. For example, the LCP policies and implementation plan provisions would be the standard of review for project components within the coastal zone boundary of San Luis Obispo County. San Luis Obispo County's LCP was certified by the CCC. The details provided below and within Appendix C describe the applicable local, State, and Federal regulations.

Coastal Zone Management Act. For the DCPP site, federal authority for protection of coastal resources, including public access and recreation under the federal Coastal Zone Management Act (CZMA) is delegated to the State under the California Coastal Act. No additional federal regulations, plans, or standards related to recreation have been identified that are directly applicable to the Project.

California Coastal Act. The majority of the Proposed Project is located within the Coastal Zone. The CCA guides the management of coastal resources within the State's jurisdiction (Coastal Zone) through the establishment of a coastal zone management program as required by the CZMA. The coastal zone management program is administered by the CCC in partnership with local governments for protection of coastal resources. Additionally, Coastal Act Section 30604(c) provides that every coastal development permit issued for any development between the nearest public road and the sea or the shoreline of any body of water located within the coastal zone shall include a specific finding that the development is in conformity with the public access and public recreation policies of Coastal Act Chapter 3 (commencing with Section 30200) (as provided in Appendix C).

San Luis Obispo County Local Coastal Program. The Coastal Act requires that local governments develop LCPs consisting of Land Use Plans and Implementing Ordinances to carry out policies of the California Coastal Act at the local level. Once certified by the CCC as consistent with and adequate to carry out the Coastal Act, responsibility for issuance of CDPs under the certified LCP is delegated to the local government. The CCC retains some continuing permit and appeal jurisdiction following LCP certification, and responsibility to certify any amendments to the LCP. The applicable LCP provisions regarding public access and recreation are identified in Table 4.15-2. (San Luis Obispo, 2007; 2019)

San Luis Obispo County General Plan, Parks and Recreation Element. The purpose of the Parks and Recreation Element is to (1) provide policy guidance regarding the provision of park and recreation services, (2) document the County's existing park and recreation resources, and (3) facilitate the evaluation of park and recreation needs (San Luis Obispo, 2006). The applicable Parks and Recreation Element provisions are identified in Table 4.15-3.

County of Santa Barbara General Plan. The SMVR-SB site is located within unincorporated Santa Barbara County. The County's Comprehensive Plan Land Use Element provides recreational goals and policies. This element lists several general recreational policies related to bikeways, outdoor recreational opportunities, hiking/equestrian trails and the joint use of schools and public-owned land for recreational opportunities. Specifically, within the Santa Maria/Orcutt Area, the applicable recreational related policies encourage commercial parks, including overnight facilities, and

require the County to fully develop its existing parks for day use. Further, this element provides a residential population formula to determine the amount and type of recreational needs. These policies do not apply to use of the SMVR-SB site because no residential development is proposed, and the Proposed Project would not place demands on any nearby recreational facilities (Santa Barbara, 2016). As described in Section 1.3.3.2, *Surface Transportation Board*, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction over railyard sites (e.g., SMVR-SB).

City of Pismo Beach General Plan/Local Coastal Program - Parks, Recreation, and Access Element. The PBR site is located within the City of Pismo Beach. The Parks, Recreation, and Access Element within the City of Pismo Beach General Plan/Local Coastal Program addresses planning for newly proposed developments. Per Pismo Beach Municipal Code Section 16.70.020, commercial and industrial developments are an exception to this section. Because the PBR is designated as a service commercial zone, this element is not applicable to the Proposed Project. (Pismo Beach, 1998; 2014)

Policy Consistency

Table 4.15-2 provides a listing of applicable LCP policies and implementation measures (ordinances) related to existing public access and recreation and summarizes the evaluation of consistency with these provisions. Please refer to Appendix C for applicable Coastal Act policies. Table 4.15-3 provides a listing of applicable San Luis Obispo County General Plan Parks and Recreation Element policies and summarizes the evaluation of consistency with these provisions. Section 4.12, Land Use, Planning, and Agriculture, addresses consistency with LCP policies pertaining to coastal access requirements for new development.

Table 4.15-2. San Luis Obispo County Local Coastal Program Consistency – Recreational Resources

San Luis Obispo County Local Coastal Program Standards	Consistent?	Discussion
Shoreline Access Policy 1 – Protection of Existing Access states, in relevant part: *Public prescriptive rights may exist in certain areas of the county. Development shall not interfere with the public's right of access to the sea where acquired through historic use or legislative authorization. These rights shall be protected through public acquisition measures or through permit conditions which incorporate access measures into new development.*	Consistent	Due to safety and security concerns, the public currently does not have right of access to the ocean at/from the DCPP site because of federal regulations. Existing public trail access to the Point Buchon Trail and Pecho Coast/Rattlesnake Canyon Trail, as required by prior permit conditions pertaining to the DCPP would continue during Project implementation. The Project would require temporary and intermittent road and lane closures, including Avila Beach Drive, during the use of specialty heavy-haul transport vehicles, affecting the public's ability to access the coast and recreational facilities. MM TRA-2 limits the hours and time periods for road and lane closures associated with heavy-haul transport. MM TRA-3 requires the appointment of a Decommissioning Liaison to act as an interface between local residents

Table 4.15-2. San Luis Obispo County Local Coastal Program Consistency – Recreational Resources

San Luis Obispo County Local Coastal Program Standards	Consistent?	Discussion
		and businesses and decommissioning crews. MM TRA-4 requires notification to property, owners, and residents along Avila Beach Drive about decommissioning activities, trucking activities, and road closures. MM TRA-5 requires that quarterly updates of decommissioning activities be provided. Lastly, MM REC-1 ensures access to commercial fishermen and wholesale fish buyers during road closures of Avila Beach Drive. With MMs TRA-2 through TRA-5 and REC-1, the Proposed Project is consistent with this policy because impacts resulting from road and land closures affecting access would be avoided or substantially reduced.
Shoreline Access Policy 8 – Minimizing Conflicts with Adjacent Uses states: *Maximum access shall be provided in a manner which minimizes conflicts with adjacent uses. Where a proposed project would increase the burdens on access to the shoreline at the present time or in the future, additional access areas may be required to balance the impact of heavier use resulting from the construction of the proposed project.*	Consistent	The Project would require temporary and intermittent road and lane closures, including Avila Beach Drive, during the use of specialty heavy-haul transport vehicles, affecting the public's ability to access the coast and recreational facilities. MM TRA-2 limits the hours and time periods for road and lane closures associated with heavy-haul transport. MM TRA-3 requires the appointment of a Decommissioning Liaison to act as an interface between local residents and businesses and decommissioning crews. MM TRA-4 requires notification to property owners, residents, and businesses along Avila Beach Drive about decommissioning activities, trucking activities, and road closures. MM TRA-5 requires that quarterly updates of decommissioning activities be provided. Lastly, MM REC-1 ensures access to commercial fishermen and wholesale fish buyers during road closures of Avila Beach Drive. These measures would avoid or substantially reduce conflicts during Project activities. Therefore, the Project is consistent with this policy.
Shoreline Access Policy 9 – Restoration and Enhancement of Shoreline Access Areas states, in part: *Areas that have been severely degraded through overly intense and unrestricted use should be restored by such techniques as revegetation with native plants, trail consolidation and improvement and through the provision of support facilities such as parking, defined trail*	Consistent	The existing Point Buchon and Pecho Coast/ Rattlesnake Canyon trails on Diablo lands are operated under programs managed by PG&E. The trail programs include measures to protect adjacent land uses, onsite grazing, and sensitive biological and cultural resources, and ensure optimal safety for users. Therefore, the Project is consistent with this policy.

Table 4.15-2. San Luis Obispo County Local Coastal Program Consistency – Recreational Resources

San Luis Obispo County Local Coastal Program Standards	Consistent?	Discussion
and/or beach walk stairway systems, trash receptacles, restrooms, picnic areas, etc…		
Recreation and Visitor-Serving Facilities Policy 1 – Recreation Opportunities states, in relevant part: *Coastal recreational and visitor-serving facilities, especially lower-cost facilities, shall be protected, encouraged and where feasible provided by both public and private means.*	Consistent	The DCPP Project has potential to temporarily and intermittently impact access to existing lower-cost or no-cost coastal facilities in the area, including beaches in the Avila area, Point Buchon and Pecho Coast/Rattlesnake Canyon trails, and Port San Luis facilities. MM TRA-1 requires decommissioning truck traffic to avoid peak travel periods. MM TRA-2 restricts when road and lane closures due to the use of specialty heavy-haul transport vehicles may occur. MM TRA-3 requires the appointment of a Decommissioning Liaison to act as an interface between local residents and businesses and decommissioning crews. TRA-4 requires notification to property owners, residents, and businesses along Avila Beach Drive about decommissioning activities, trucking activities, and road closures. MM TRA-5 requires that quarterly updates of decommissioning activities be provided. Lastly, MM REC-1 ensures access to commercial fishermen and wholesale fish buyers during road closures of Avila Beach Drive. With these measures, the Proposed Project is consistent with this policy.
Recreation and Visitor-Serving Facilities Policy 3 – Low Cost Facilities states: *Larger visitor-serving projects shall make provisions for services which are geared to a range of costs, including low cost facilities.*	Consistent	The Proposed Project does not include a proposal for a large visitor-serving project; therefore, the Proposed Project is consistent with this policy.
Recreation and Visitor-Serving Facilities Policy 4 – Visitor-Serving Uses in Agricultural Areas states: *Where visitor-serving facilities are proposed within areas designated as agriculture on the LUE, the findings specified in agriculture Policy 3 as implemented in the CZLUO in the Agriculture chapter shall be met.*	Consistent	Although the lands adjacent to the DCPP site are designated for agricultural use, the Proposed Project is consistent with this policy because it would not impact the existing agricultural uses along the existing recreational trails and adjacent Diablo Lands.

Source: San Luis Obispo, 2007; 2019.

Table 4.15-3. San Luis Obispo County General Plan Consistency – Parks and Recreation Element

Recreation Policies	Consistent?	Discussion
Policy 3.8 states: *To protect the interests of adjacent land uses (both public and private) and the environment, trail projects shall:* *1. Be consistent with the standards in the General Plan including the County's Agriculture and Open Space Element.* *2. Stay as far away as reasonable from production agriculture, commercial activities and residences.* *3. Be built to minimize impacts to sensitive resources.* *4. Provide signs that identify permitted trail uses; directions to relevant public areas; and, provide for safety and protection of trail users and adjacent private property.* *5. Provide trail fencing where necessary to discourage trespass onto neighboring land and to protect sensitive resources.* *6. Impose enforceable limitations on the trail use, as appropriate.* *Be designed and constructed consistent with the trails standards contained in Appendix B of this document.*	Consistent	Limited coastal access has been provided by PG&E for public use in perpetuity north and south of the DCPP site. The existing Point Buchon and Pecho Coast/Rattlesnake Canyon trails, implemented pursuant to requirements of prior permit conditions, would continue to remain open to the public. The existing management programs for these trails include measures to protect adjacent land uses, sensitive natural and cultural resources, and ensure optimal safety for users.

Source: San Luis Obispo, 2006.

4.15.3 Significance Criteria

The significance criteria used to evaluate the Project impacts related to recreation and public access are based on Appendix G of the State CEQA Guidelines. A significant impact would occur if the Project would:

- Result in permanent or temporary restrictions or prohibitions on existing public access to trails, parks, beaches, or other recreational areas.
- Increase the use of nearby beaches, existing local and regional parks, or other recreational facilities or resources, such that substantial physical deterioration of the facility or resource would occur or be accelerated.
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment.
- Threaten the safety of recreational users.

4.15.4 Environmental Impact Analysis and Mitigation

Impact REC-1: Result in permanent or temporary restrictions or prohibitions on public access, which could obstruct upland, shoreline, and water-dependent public access and recreation (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

On site decommissioning activities would not further displace or interfere with the public's use of upland, shoreline, or water-dependent public access or recreational resources. Due to safety and security concerns, the public currently does not have right of access to the ocean at/from the DCPP site because of federal regulations. Existing public trail access to the Point Buchon and Pecho Coast/Rattlesnake Canyon trails as required by prior permit conditions, would continue in perpetuity north and south of the DCPP site.

Decommissioning construction activities would include trucks and other specialty equipment carrying construction debris, waste, and large components during decommissioning in Phase 1. Trucks would travel from the DCPP site via Diablo Canyon Road to Avila Beach Drive, then east on Avila Beach Drive to US-101. Although there would be regular trucking activity entering and exiting the site between US-101 and the main DCPP Access Gate on Avila Beach Drive, the overall trip activity of the site would be less than existing conditions as described in Impact TRA-1 in Section 4.16, Transportation. Nevertheless, trucking associated with decommissioning would not be allowed during peak periods to avoid or substantially reduce traffic congestion, as required by MM TRA-1 (*Truck Transportation Outside of Peak Hours*).

Decommissioning activities could temporarily impact access to the Pecho Coast/Rattlesnake Canyon trails, trail parking areas, Port San Luis fishing facilities and RV camping locations, and area beaches because Avila Beach Drive is the main access road to these important recreational areas. However, as described in Section 4.16, Transportation, under Impact TRA-3, trucks or employees are not anticipated to be queued up on Avila Beach Drive to enter the site during any period of the Proposed Project.

However, a maximum of 79 specialty heavy-haul transport vehicle roundtrips (158 one-way trips) would be required to transport Large Component Class A Waste or RPV/RVI Class A/B/C irradiated metal to the SMVR-SB site or directly to Utah or Texas for disposal during Phase 1, specifically from 2024-2029. Due to the width of the transport vehicle (20 feet), road and lane closures could be required when the transport vehicle travels both to and from the DCPP site. This could obstruct upland, shoreline, and water-dependent public access and recreation. Depending on the contractor and the specific equipment used, the specialty heavy-haul transport vehicle may be able to travel to the DCPP site without road or lane closures, as the specialty heavy-haul transport vehicle trailer could be "packed" or stacked to reduce the trailer size width to that of a standard tractor-trailer. However, for CEQA purposes, the impacts of full road and lane closures for both incoming and outgoing trips (79 round trips, 158 one-way trips) are analyzed, and assume that the roundtrips would not occur within the same 24-hour period.

The Avila Beach area is busy with tourists, beach goers, recreationists, and users of the Port San Luis Harbor District facilities (campers, boaters, and commercial, sports, and recreational fishermen), particularly during peak summer months and on weekends throughout the year. Temporary, intermittent road closures along Avila Beach Drive to allow access for the specialty heavy-haul transport vehicle could temporarily impact access to Port San Luis, Fisherman's Beach, Olde Port Beach, Avila Beach, public parking areas along Avila Beach Drive, and recreational and camping areas at and near Port San Luis (see Figure 4.15-3).

While the impacts associated with road and lane closures from specialty heavy-haul transport vehicles would be temporary and intermittent, their effect on access requires mitigation. MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*) requires that specialty heavy-haul transport vehicle use only occur between the hours of 10:00 p.m. and 5:00 a.m., Monday – Thursday, during the off-peak season (October – April). For Avila Beach Drive specifically, road closures would be required to occur only between 12:00 a.m. and 2:00 a.m. By restricting when the road and lane closures may occur, the number of people affected by the closure would be reduced.

Given that Port San Luis Harbor District permits commercial fisherman and commercial wholesale fish buyers access the Port San Luis Harford Landing at all hours in order to conduct their business, MM REC-1 requires PG&E to work with the Port San Luis Fisherman's Association to allow Port-permitted commercial fishermen and wholesale commercial fish buyers access on Avila Beach Drive during road closures. MM REC-1 would also require the commercial fisherman and fish buyers to receive advanced notification of the closures.

TRA-3 requires that a Decommissioning Liaison be identified to serve as a point of contact for decommissioning-related questions and information and interface between local residents and businesses and the DCPP decommissioning crews. Contact information for the Liaison would be provided to the public as well as placed on a dedicated Project website. In addition, to ensure the public is aware of decommissioning activities, including truck traffic and planned road and lane closures associated with the use of specialty heavy-haul transport vehicles, MM TRA-4 requires that prior to the start of decommissioning activities, advanced notification be provided to property owners, residents, and businesses along Avila Beach Drive and within the central Avila Beach community, advising them of the location, types, and expected duration of decommissioning activities, trucking activities, and any scheduled road closures. MM TRA-5 requires this notification be updated and provided every quarter.

With implementation of MMs TRA-1 (*Truck Transportation Outside of Peak Hour*), TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), TRA-4 (*Advance Notification of Decommissioning*), TRA-5 (*Quarterly Decommissioning Updates*), REC-1 (*Commercial Fishing Operations Access Plan for Avila Beach Drive*), and EM-2 (*Project Plan Updating, Tracking, and Reporting*, specifically for the Traffic Management Plan [TMP] required under MMs TRA-1 and TRA-2, and the Commercial Fishing Operations Access Plan for Avila Beach Drive required under MM REC-1), impacts related to ground transportation resulting in permanent or temporary public access restrictions or prohibitions obstructing upland, shoreline, and water-dependent public access and recreation would be less than significant (Class II).

Water-Dependent Recreation. During Period 1B of the Proposed Project (2030-2033), various waste types would be exported by barge from the DCPP Intake Cove to the Port of Portland and the Port of Morrow in Portland and Boardman, Oregon, respectively (see Figure 4.16-7). To transport waste, the Proposed Project would require a total of 55 barges during Period 1B (2030-2033), as shown in Table 2-7, equating to 28 round trips (each tug pulls two barges, with last tug pulling only one barge). Additionally, within a 1- to 2-year timeframe during Period 1A of the Proposed Project (2024-2029), up to 15 barge round trips would be required to transport gravel by barge from the Port of Long Beach to fill the Discharge Structure cofferdam (with one tugboat pulling one barge). Then within a 1-year timeframe during Period 1B of the Proposed Project (2030-2033), 3 barge round trips (with one tug boat pulling one barge) would be required to transport quarry rock of various sizes from the Connolly-Pacific Company (Co.) Quarry on Santa Catalina Island (see Table 2-5).

Project-related marine traffic may be limited to non-rainy seasons (e.g., summertime), which tends to be the ideal time for recreational boaters to recreate by the sea. While private boats are not allowed within the 2,000-yard security zone established by the US Coast Guard and US Department of Transportation (see Figure 2-6), recreational fishing vessels, pleasure crafts, and sailing activity originating from Port San Luis Harbor and Morro Bay Harbor sometimes occur within 4 nautical miles of the DCPP. Other than getting into/out of the Intake Cove and along the Columbia River for the waste barge trips (see Figure 4.16-14), barges would travel 50 nautical miles offshore in international waters thereby reducing potential temporary water-dependent recreational restrictions.

Barges used for the Proposed Project would also be temporarily staged at Port San Luis Harbor. To support waste shipments by barge, at least two empty barges would be stored at an offshore mooring in Avila Bay/Port San Luis for approximately one to two weeks. The need for berthing and cargo space could result in longer wait times for berths or anchoring locations, congestion, and reduced safety for commercial and recreational port users at local ports, including Port San Luis Harbor, the Port of Portland, and the Port of Morrow. Recreational activity, particularly for fishing, may increase in the Columbia River during salmon runs; however, there is already consistent vessel traffic traversing through the river, and fisherman are likely aware of and accustomed to this type of traffic (PG&E, 2022c).

To reduce potential impacts, MM TRA-7 (*Coordination with Harbormasters*) would be implemented requiring PG&E to coordinate with the harbormaster for Port San Luis to notify them of increases to vessel traffic and barge staging activities. In addition, coordination with the Port of Portland and Port of Morrow would be required to inform them of the Project's vessel traffic activity. Once the final scheduling is complete, PG&E would develop a communications and traffic plan to coordinate with local port authorities on the timing of Project-related tug-barge departure and arrival (PG&E, 2022c). This would allow local port authorities to take any necessary steps to ensure that Project-related vessel traffic would not be greater than the ports' berthing and staging capacity. In addition, recreational fishers and boaters would be informed of potential interference with their recreational activities due to construction-related vessels in the Project area; therefore, these local operators could avoid construction areas or temporarily relocate fishing efforts. With implementation of MM TRA-7 and given the overall number of round trips is limited to 46 (28 [waste]+15 [gravel]+3 [quarry rock]), and waste barge trips are not anticipated

to overlap with cofferdam gravel trips and would be spread over at least a 1-year period, the temporary impacts to offshore recreation would be less than significant (Class II).

Railyards

Although the 79 specialty heavy-haul transport vehicle roundtrips (158 one-way trips) would include travel to the SMVR-SB railyard site, the trips would not cause permanent or temporary, intermittent roadway, parking, or trail closures obstructing upland, shoreline, and water-dependent public access and recreation at or near the SMVR-SB railyard site. No public recreational resources are located at or adjacent to this facility (No Impact).

Phase 2

During Phase 2, construction activities, truck traffic, and equipment access would occur due to activities such as on-site soil remediation and final site restoration, including Discharge Structure removal and restoration, with the same access route as Phase 1. This includes approximately 1,760 truck trips to import 34,995 cubic yards of topsoil for restoring the Firing Range. There are not anticipated to be any road or lane closures during Phase 2 since the use of specialty heavy-haul transport vehicles would occur during Phase 1, specifically from 2024-2029. MM TRA-1 (*Truck Transportation Outside of Peak Hours*) requires that truck transportation not occur during peak hours, thus, lessening the impacts associated with truck traffic associated with Phase 2 activities. In addition, MM TRA-3 (*Decommissioning Liaison*) requires the appointment of a Decommissioning Liaison to serve as a point of contact and interface between local residents and businesses and the DCPP decommissioning crews. Also, MM TRA-4 (*Advanced Notification of Decommissioning*) and TRA-5 (*Quarterly Decommissioning Update*) would establish public notification requirements for ongoing truck traffic, as well as other decommissioning activities. As such, impacts would be reduced to less than significant with mitigation (Class II).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. These activities would not cause permanent or temporary restrictions or prohibitions on public access which could obstruct upland, shoreline, and water-dependent public access and recreation. Post-decommissioning impacts of the Proposed Project would be less than significant (Class III).

Future Actions. Marina improvements, which would be developed by a third party as described in Section 2.7, are not expected to cause permanent or temporary restrictions or prohibitions on public access which could obstruct upland, shoreline, and water-dependent public access and recreation. In fact, Marina improvements, once permitted and constructed, could provide future recreational amenities at the DCPP site after the completion of the Proposed Project. As the risk profile for DCPP goes down (i.e., by end of 2029 when all SNF is anticipated to be transferred to the ISFSI), PG&E can authorize activities within the security exclusion zone (see Figure 2-6) and work with a third party to allow use of the Marina (PG&E, 2022a). However, any changes to the security exclusion zone (reduction or elimination) must be completed through federal government action (US Coast Guard and US Department of Transportation) (PG&E, 2022a). Impacts would be less than significant (Class III).

Mitigation Measures for Impact REC-1.

EM-2 **Project Plan, Updating, Tracking, and Reporting.** See Section 3. For Impact REC-1, MM EM-2 will be implemented to track the compliance activities and reporting of the TMP required under MMs TRA-1 and TRA-2, and the Commercial Fishing Operations Access Plan for Avila Beach Drive required under MM REC-1.

REC-1 **Commercial Fishing Operations Access Plan for Avila Beach Drive.** Prior to the issuance of any County building permits associated with decommissioning, the Applicant or its designee shall develop a Fishing Operations Access Plan ("Fishing Access Plan") which details how access will be maintained for Port San Luis Harbor District permitted commercial fishermen and commercial wholesale fish buyers. The Plan shall be developed in coordination with the Port San Luis Harbor District and the Port San Luis Fishermen's Association and submitted to the Port San Luis Harbor District and the County Department of Planning and Building for review and approval. The Plan shall include at a minimum:

A. Methods for providing advance notification of potential road closures or other activities affecting night-time access to Port San Luis for permitted commercial fishermen and commercial wholesale fish buyers. The Plan shall identify the method of noticing and who requires notice and ensure that new or infrequent operators are not omitted from noticing.

B. Notification must be provided a minimum of two (2) weeks in advance of each Avila Beach Drive closure and repeated 3-5 days prior to the closure event. A calendar schedule tracking tentatively-planned closures may be incorporated as part of the notice process.

C. The process for providing access to Port San Luis permitted commercial fishermen and commercial fish buyers on Avila Beach Drive during road closures. This must include:

    I. Requirements for fishermen and wholesale fish buyers to provide identification establishing them as permitted by the Port San Luis Harbor District.

    II. Procedures for safe travel on Avila Beach Drive during closures, such as use of escort vehicles.

    III. Implementation and management provisions for the noticing and updates to the schedule of closures. The applicant shall work with both the Port San Luis Harbor District and the County throughout the process until all work requiring road closures is completed.

The draft Commercial Fishing Operations Access Plan shall include evidence of consultation with the Port San Luis Fishermen's Association on submittal to the Port San Luis Harbor District and the County Planning and Building Department for joint-agency review and approval. Implementation of the Access Plan shall be jointly managed by the Port and the County. The final Commercial Fishing Operations Access Plan shall be included on the project's dedicated informational website, along with a calendar of planned closures that is updated over the course of the Project.

TRA-1 **Truck Transportation Outside of Peak Hours.** See Section 4.16.

TRA-2 **Specialty Heavy-Haul Transport Vehicle Transportation Management Plan.** See Section 4.16.

TRA-3 **Decommissioning Liaison.** See Section 4.16.

TRA-4 **Advance Notification of Decommissioning.** See Section 4.16.

TRA-5 **Quarterly Decommissioning Updates.** See Section 4.16.

TRA-7 **Coordination with Harbormasters.** See Section 4.16.

Impact REC-2: Restrict access to coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

The primary ingress and egress for personnel and trucks to DCPP is via US-101 to Avila Beach Drive, heading northwest to Diablo Canyon Road, or from Diablo Canyon Road to Avila Beach Drive, then east on Avila Beach Drive to US-101. The total number of workers driving to the DCPP would decrease as DCPP decommissioning progresses and therefore personnel traffic would decrease. PG&E's Proposed Project expects to have a linear reduction in the overall staffing at the DCPP site as decommissioning operations progress following shutdown of Units 1 and 2.

During decommissioning, DCPP staffing levels would change, depending on the work being performed and the location of the SNF. The location of SNF, whether within the Spent Fuel Pools or the ISFSI affects the level of security workforce required to commute to the Project site. Decommissioning staffing (related to analyzing and implementing pre-decommissioning Project activities) is expected to be less than half of the current staffing levels by 2026, once Unit 2 is shutdown. A total of approximately 870 workers are anticipated in Phase 1 (PG&E, 2021a – GC-4). A portion of that would be PG&E staffing, which is expected to have a peak of 490 workers and an average of 420 workers in Phase 1 (PG&E, 2021a – GC-4). The remaining workers would be contractors conducting decommissioning activities. The next large decrease in on-site DCPP staffing (including PG&E and contracted staff) is expected to occur when the transfer of SNF to the ISFSI is complete in 2029. All on-site workers would continue to park at the DCPP site, and no off-site parking/shuttle service is proposed.

Because there would be a substantial decrease in the number of workers in the area travelling to and from the DCPP site as compared to current operations, adverse effects related to coastal access or local recreational facilities due to personnel traffic to/from DCPP would be less than significant.

Regarding truck traffic to and from the DCPP site, during Phase 1, construction activities would include trucks and other specialty equipment carrying construction debris, waste, and large components during decommissioning in Phase 1. Trucking of waste from the DCPP site would

occur during non-peak periods to avoid or substantially reduce traffic-related impacts as required by MM TRA-1 (*Truck Transportation Outside of Peak Hours*). As described in Section 4.16, Transportation, under Impact TRA-3, there are not anticipated to be queues of trucks or employees queued up on Avila Beach Drive to enter the site during any period of the Proposed Project.

Additional truck traffic (not including specialty heavy-haul transport vehicles) on local and regional roadways would be temporary and would not require lane closures. Additionally, no personnel or truck traffic would impact local roadways north of the Diablo Canyon Lands. The secondary access road to DCPP (Pecho Valley Road/North Ranch Road) is approximately 4.5-miles long and extends from Montaña de Oro State Park to the DCPP site and is not used for day-to-day plant operations and would not be used to support decommissioning.

Thus, during Phase 1, the Proposed Project would not restrict access to the coastline or other recreational facilities or resources from additional personnel and truck traffic on local and regional roadways. However, temporary intermittent road closures along Avila Beach Drive to allow access for any specialty heavy-haul transport vehicles could impact access to Port San Luis, Fisherman's Beach, Olde Port Beach, and Avila Beach, public parking areas along Avila Beach Drive, and recreational camping areas at Port San Luis, as discussed under Impact REC-1. As such, the Proposed Project would temporarily restrict access to the coastline and other recreational facilities or resources from additional truck traffic on local and regional roadways to allow for transport of specialty equipment and other construction trucks, as also discussed under Impact REC-1, and as described in Section 4.16, *Transportation*.

As discussed in Impact REC-1, MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*) requires that the use of specialty heavy-haul vehicles only occur at night, with further limited closure hours for Avila Beach Drive. MM REC-1 (*Commercial Fishing Operations Access Plan for Avila Beach Drive*) requires that access on Avila Beach Drive be maintained for Port San Luis Harbor District permitted commercial fishermen and commercial wholesale fish buyers. TRA-3 *(Decommissioning Liaison)* requires that a Decommissioning Liaison be identified to serve as a point of contact for decommissioning-related questions and information and interface between local residents and businesses and the DCPP decommissioning crews. Contact information for the Liaison would be provided to the public as well as placed on a dedicated Project website. In addition, MM TRA-4 (*Advance Notification of Decommissioning*) requires advance notification to the property owners, residents, and businesses located along Avila Beach Drive and the Avila Beach Community of decommissioning activities, including trucking activities, and lane and road closures. MM TRA-5 (*Quarterly Decommissioning Updates*) requires that the notification be updated and provided quarterly. With implementation of these measures, as well as EM-2 (*Project Plan, Updating, Tracking, and Reporting*, specifically for the TMP required under MMs TRA-1 and TRA-2, and the Commercial Fishing Operations Access Plan for Avila Beach Drive required under MM REC-1), impacts related to additional personnel and trucking traffic would be reduced to a less-than-significant level (Class II).

Railyards

Pismo Beach Railyard. Regarding personnel traffic to and from the PBR site, no additional employees are anticipated to be required at the PBR facility; therefore, no impacts to local or regional roadways used to access recreational areas would occur.

Regarding truck traffic to and from the PBR site, trucks would continue south on US-101 to Pismo Beach, exit Hinds Avenue/Price Canyon Road, northeast on Price Canyon Road, and then east on Bello Street to the PBR site. If the PBR site is used, shipping of non-hazardous, non-radioactive waste may only occur outside of peak traffic periods as specified in MM TRA-1 (*Truck Transportation Outside of Peak Hours*). In addition, PG&E has committed to limit truck idling to the extent feasible (PG&E, 2021a – Noise-1). The daily average number of trucks leaving the site is dependent on the activities being performed during that time frame. Truck traffic to and from the Pismo Beach Railyard would not impede any access points along local and regional roadways to local recreational areas because no coastal access or public recreational areas are nearby (No Impact).

SMVR-SB. To support rail transport operations at the SMVR-SB site, approximately 10 temporary employees would be on site. These would be additional employees and likely would not be employee trips shifting from the DCPP site (PG&E, 2021b – TRANS-1). Personnel traffic on local and regional roadways to and from the SMVR-SB site would not impede any access points to local recreational areas because no coastal access or public recreational areas are nearby.

Trucks delivering shipments to the SMVR-SB site would continue south on US-101 to Santa Maria, exit Betteravia Road, then travel west on Betteravia Road to the SMVR-SB site. Truck traffic to and from the SMVR-SB site would not impede any access points along local and regional roadways to local recreational areas because no coastal access or public recreational areas are near the railyard or along the travel routes. (No Impact).

Phase 2

During Phase 2, staffing at the DCPP site would decrease until the main plant site remediation is complete. A total of approximately 270 workers per day would be commuting throughout Phase 2 (PG&E, 2021a – GC-4). A portion of that would be PG&E staffing, which is expected to have a peak of 165 workers and an average of 160 workers per day in Phase 2 (PG&E, 2021a – GC-4). All workers would park at the DCPP site, and no off-site parking/shuttle service is proposed. After site remediation is complete, the only staff on site would be those required to monitor and protect the ISFSI and GTCC Waste Storage Facility and conduct periodic monitoring of site restoration compliance activities. Because there would be lower numbers of staff travelling to and from the site as compared to current operations, adverse effects on local and regional roadways due to staff travel would be less than current levels and would not restrict access to the coastline or other recreational facilities. Impacts would be less than significant (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. These activities would not restrict access to coastline or other recreational facilities or resources from additional personnel and trucking traffic because only a small amount of personnel would be needed. Impacts would be less than significant (Class III).

Future Actions. Marina improvements would be developed by a third party as described in Section 2.7. Any additional operational staff and associated traffic impacts would be evaluated in a separate CEQA approval and state/local permitting process if a third party decides to operate the Marina after the site is fully decommissioned. Marina improvements, once permitted and

constructed, could provide future recreational amenities at the DCPP site after the completion of the Proposed Project. As the risk profile for DCPP goes down (i.e., by end of 2029 when all SNF is anticipated to be transferred to the ISFSI), PG&E can authorize activities within the security exclusion zone (see Figure 2-6) and work with a third party to allow use of the Marina (PG&E, 2022a). However, any changes to the security exclusion zone (reduction or elimination) must be completed through federal government action (US Coast Guard and US Department of Transportation) (PG&E, 2022a). Impacts would be less than significant (Class III).

Mitigation Measures for Impact REC-2.

EM-2 **Project Plan, Updating, Tracking, and Reporting.** See Section 3. For Impact REC-2, MM EM-2 will be implemented to track the compliance activities and reporting of the TMP required under MMs TRA-1 and TRA-2, and the Commercial Fishing Operations Access Plan for Avila Beach Drive required under MM REC-1.

REC-1 **Commercial Fishing Operations Access Plan for Avila Beach Drive**

TRA-1 **Truck Transportation Outside of Peak Hours.** See Section 4.16.

TRA-3 **Decommissioning Liaison.** See Section 4.16.

TRA-2 **Specialty Heavy-Haul Transport Vehicle Transportation Management Plan.** See Section 4.16.

TRA-4 **Advance Notification of Decommissioning.** See Section 4.16.

TRA-5 **Quarterly Decommissioning Updates.** See Section 4.16.

Impact REC-3: Cause increased use or require the construction or expansion of existing local and regional parks or other recreational facilities (Class III: Less than Significant).

Phase 1

DCPP Project Site

As discussed above for Impact REC-2, DCPP site staffing and the total number of workers is expected to decrease as DCPP decommissioning progresses. The decrease in the number of on-site DCPP staff is expected to more than offset the temporary increase in construction personnel to support decommissioning activities. Therefore, no increase in use of or demand for beaches, local parks, and recreational facilities are anticipated due to decommissioning activity staff/ personnel. (No Impact).

Railyards

Pismo Beach Railyard. No additional employees are anticipated to be required at the PBR facility. Therefore, no impacts would occur to recreational resources due to increased use (No Impact).

SMVR-SB. To support rail transport operations at the SMVR-SB site, approximately 10 temporary employees would be on site. These additional employees would not cause a substantial increase in use or demand for the construction or expansion of existing local and regional parks or other

recreational facilities. Additionally, no local or regional parks or public recreational resources are located at or adjacent to these facilities. Therefore, impacts related to increased use or need for construction or expansion of recreational facilities near this site would be less than significant (Class III).

Phase 2

During Phase 2, staffing at DCPP for completion of soil remediation and final site restoration would decrease until the main plant site remediation is complete. After remediation, the only staff needed on site would be those required to monitor and protect the ISFSI and GTCC Waste Storage Facility and conduct periodic monitoring of compliance with permit conditions. Phase 2 also includes the retainment of the Breakwaters and Intake Structure. No permanent effects due to increased use of or demand for beaches, local parks, and recreational facilities are anticipated during Phase 2, resulting in a less than significant impact (Class III).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. The activities would not cause increased use or require the construction or expansion of existing local and regional parks or other recreational facilities. Impacts would be less than significant (Class III).

Future Actions. Marina improvements would be permitted and developed by a third party as described in Section 2.7. The Marina improvements include construction of new parking areas and a boat hoist, among other features. The Marina improvements would not cause increased use or require the construction or expansion of existing local and regional parks or other recreational facilities. The Marina improvements could create an opportunity to implement future recreational facilities. As the risk profile for DCPP goes down (i.e., by end of 2029 when all SNF is anticipated to be transferred to the ISFSI), PG&E can authorize activities within the security exclusion zone (see Figure 2-6) and work with a third party to allow use of the Marina (PG&E, 2022a). However, any changes to the security exclusion zone (reduction or elimination) must be completed through federal government action (US Coast Guard and US Department of Transportation) (PG&E, 2022a). Impacts would be less than significant (Class III).

Mitigation Measures for Impact REC-3. No mitigation measures are required.

Impact REC-4: Expose users of recreational facilities to hazards during Project decommissioning (Class II: Less Than Significant with Mitigation).

Phase 1

DCPP Project Site

Upland and Shoreline Recreation. The Proposed Project involves trucking of materials, debris, and large equipment in and out of the Project site, in addition to transport of waste from the DCPP to the railyards, as discussed for Impact REC-1 and Impact REC-2. These trucking activities could expose users of recreational facilities in Port San Luis and along Avila Beach Drive to hazards

due to large trucks and equipment entering and exiting Diablo Canyon Road, including dust or debris from the trucks. Also, temporary, intermittent road closures along Avila Beach Drive would be necessary to allow specialty heavy-haul transport vehicle access, as discussed under Impact REC-1 and Impact REC-2. Recreationalists would not be able to enter the roads, parking areas, and pathways that would be impacted by truck traffic during intermittent road closures. MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*) would be implemented, which restricts when road and lane closures can occur due to the transportation of specialty heavy-haul vehicles. In addition, TRA-3 (*Decommissioning Liaison*) requires that a Decommissioning Liaison be identified to serve as a point of contact for decommissioning-related questions and information and interface between local residents and businesses and the DCPP decommissioning crews. Contact information for the Liaison would be provided to the public as well as placed on a dedicated Project website. In addition, MM TRA-4 (*Advance Notification of Decommissioning*) requires advance notification to the property owners, residents, and businesses located along Avila Beach Drive and the Avila Beach Community of decommissioning activities, including trucking activities, and lane and road closures. MM TRA-5 (*Quarterly Decommissioning Updates*) requires that the notification be updated and provided quarterly. With implementation of these mitigation measures, as well as EM-2 (*Project Plan, Updating, Tracking, and Reporting*, specifically for the TMP required under MM TRA-2), the impact would be less than significant (Class II).

Water-Dependent Recreation. As discussed for Impact REC-1, various waste types would be exported by barge from the DCPP Intake Cove to the Port of Portland and the Port of Morrow in Portland and Boardman, Oregon, respectively. Additionally, barges would transport gravel from the Port of Long Beach and to transport quarry rock from Santa Catalina Island. The level of safety for marine vessels is addressed under Impact TRA-4.

Railyards

Proposed Project activities at the railyards (PBR, SMVR-SB) would not expose recreational facility users to hazards given that no public recreational resources are located within or adjacent to these facilities (No Impact).

Phase 2

During Phase 2, recreational users may be exposed to the same temporary construction traffic hazards described for Phase 1. As noted in Impact REC-1 and Impact REC-2, during Phase 2, as in Phase 1, public notification measures would be required to reduce impacts to recreational uses as described above. Implementation of MM TRA-3 (*Decommissioning Liaison*), TRA-4 (*Advanced Notification of Decommissioning*) and TRA-5 (*Quarterly Decommissioning Updates*), would reduce impacts to a less-than-significant level (Class II).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Operation of these facilities would occur toward the end of decommissioning and continue once it is complete. Given this, these operations would not

expose users of recreational facilities to hazards during Project decommissioning. Impacts would be less than significant (Class III).

Future Actions. The Marina area would not be open for recreational activities until the area has been released from the PG&E's NRC Part 50 license and transferred to a third party (see Section 2.7). As such, exposure of recreational users to hazards would be less than significant during the post-decommissioning activities as proposed by the Applicant (Class III).

Mitigation Measures for Impact REC-4.

EM-2 **Project Plan, Updating, Tracking, and Reporting.** See Section 3. For Impact REC-4, MM EM-2 will be implemented to track the compliance activities and reporting of the TMP required under MM TRA-2.

TRA-2 **Specialty Heavy-Haul Transport Vehicle Transportation Management Plan.** See Section 4.16.

TRA-3 **Decommissioning Liaison.** See Section 4.16.

TRA-4 **Advanced Notification of Decommissioning.** See Section 4.16.

TRA-5 **Quarterly Decommissioning Updates.** See Section 4.16.

4.15.5 Cumulative Impact Analysis

Geographic Extent Context

The geographic scope for cumulative effects related to recreation and public access is the area that includes cumulative projects near Diablo Canyon Road and Avila Beach Drive that could impact access to the same public recreational areas as the Proposed Project. As listed in Table 3-1, several applicable cumulative projects are located in Avila Beach, including projects within or near the Diablo Canyon Lands and Avila Beach Drive, as follows:

- Orano System ISFISI Modifications (#1)
- Communications Facility (#2)
- Avila Beach Drive at Highway 101 Interchange (#3)
- Flying Flags Campground (#4)
- Bob Jones Trail Construction (#5)
- Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6)

Cumulative Impact Analysis

Phase 1

Five cumulative projects are located along Avila Beach Drive or would otherwise be accessed via Avila Beach Drive, including the modifications to the ISFSI (Orano System ISFSI Modifications, #1), a new proposed communications facility on Diablo Canyon Road (Communications Facility, #2), an interchange at Avila Beach Drive and Highway 101, (Avila Beach Drive at Highway 101 Interchange, #3), a camp ground (Flying Flags Campground, #5), a bike trail project (Bob Jones

Trail, #5), and a hotel/resort expansion project (Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit, #6).

Construction and operation of these projects, beyond the scope of the Proposed Project, have the potential to either temporarily or permanently impact traffic and, therefore, access and parking for public recreational facilities including Port San Luis, Fisherman's Beach, Olde Port Beach, and Avila Beach, and recreational camping areas at Port San Luis.

Construction of the Orano System ISFSI Modifications (#1) would occur during Phase 1 and would cause an additional 384 truck trips hauling construction materials and equipment to and from the DCPP site (Stantec, 2022). Although this is an increase in truck trips beyond the Proposed Project, the duration of this activity is less than a year during Phase 1. The additional truck activity associated with Phase 1 of the Proposed Project and the ISFSI modifications would be a temporary condition, follow the same limited hours of operation outside of the peak travel periods (MM TRA-1), and are not anticipated to require any road or lane closures.

Construction of the remaining four projects would similarly overlap with Phase 1 for only approximately one year. During this time, decommissioning activities would just be beginning. Therefore, it is unlikely that these four projects would have an overlap with the DCPP Project construction schedule. Further, the Avila Beach Drive at Highway 101 Interchange (#3) is intended to streamline traffic along Avila Beach drive to US-101. The Flying Flags Campground (#4) includes plans to develop new visitor-serving accommodations, amenities, and a 48,000 square foot parking lot and is under construction. Construction traffic associated with the proposed campground may not overlap with the DCPP Project because it is already under construction and likely to be completed prior to Phase 1 activities beginning in 2024. Similarly, the Bob Jones Bike Trail (#5) would increase public access and recreation in the area and is anticipated to be complete in April 2025. Given that Phase 1 is expected to begin in 2024, only a minor overlap in construction schedules would occur and, thus, only temporary, minor, and additional delays may occur potentially impeding public access along Avila Beach Drive. This may include the up to 158 specialty heavy-haul transport vehicle trips that would require lane and/or full road closures on Avila Beach Drive. However, given that use of the specialty heavy-haul transport vehicle use may only occur at night and for a limited time on Avila Beach Drive pursuant to MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), and no specialty heavy-haul transport vehicles are involved in these other projects, the impact would not be cumulative considerable.

The Avila Beach Resort Phased Expansion (#6) would include an expansion of visitor-serving hotel accommodations along Avila Beach Drive, and would modify road improvement standards, if approved. Of these four projects, traffic from the proposed resort expansion along Avila Beach Drive has the most potential to overlap with traffic associated with the DCPP Project during Phase 1 decommissioning activities, and therefore, would temporarily impact access to nearby public recreational facilities. However, this potential cumulative impact due to temporary hotel construction traffic, combined with road closures for large equipment or trucking access to DCPP, would be avoided or substantially reduced with implementation of MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advanced Notification of Decommissioning*), and TRA-5 (*Quarterly Decom-*

missioning Updates). These measures require public notification measures, including posted signage and a dedicated Project website with Project-related information such as decommissioning truck traffic, temporary road and lane closures, as well as duration and frequency of temporary closures. These measures would allow the public to plan ahead to minimize delays due to slower traffic and to determine alternative access routes to recreation areas. With implementation of these mitigation measures the Project impact would be less than significant (Class II).

Additionally, the Communications Facility (#2), proposed to be located on Diablo Canyon Road, would be unlikely to contribute to impacts on public access and recreational facilities because construction and staging would occur on the project site and would likely require no road closures. Therefore, potential temporary impacts to public access and recreation, would be insubstantial if the communications facility proceeds. Impacts would not be cumulatively considerable.

Phase 2

Given that Phase 2 of the Proposed Project is expected to begin in 2032, cumulative impacts would be fewer because the five existing cumulative projects would likely be complete or close to completion. For this reason, the Proposed Project would not make a considerable contribution to cumulative effects associated with recreation and public access based on the existing cumulative projects nearby. Any future projects near the Proposed Project that are not yet reasonably foreseeable under CEQA would be required to consider this Project as a cumulative impact under CEQA Guidelines §15355.

4.15.6 Summary of Significance Findings

Table 4.15-4 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project.

Table 4.15-4. Summary of Impacts and Mitigation Measures – Recreation and Public Access

Impact Statement	Impact Significance Class				Mitigation Measures
	Phase 1		Phase 2	Post-Decom	
	DCPP	*PBR/SB*	*DCPP*	*Ops/Marina*	
REC-1: Result in permanent or temporary restrictions or prohibitions on public access, which could obstruct upland, shoreline, and water-dependent public access and recreation	II	NI/NI	II	III/III	**EM-2:** Project Plan, Updating, Tracking, and Reporting **REC-1:** Commercial Fishing Operations Access Plan for Avila Beach Drive **TRA-1:** Truck Transportation Outside of Peak Hours **TRA-2:** Specialty Heavy-Haul Transport Vehicle Transportation Management Plan **TRA-3:** Decommissioning Liaison **TRA-4:** Advance Notification of Decommissioning **TRA-5:** Quarterly Decommissioning Updates **TRA-7:** Coordination with Harbormasters

Table 4.15-4. Summary of Impacts and Mitigation Measures – Recreation and Public Access

Impact Statement	Impact Significance Class				Mitigation Measures
	Phase 1		Phase 2	Post-Decom	
	DCPP	*PBR/SB*	*DCPP*	*Ops/Marina*	
REC-2: Restrict access to coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways	II	NI/NI	III	III/III	**EM-2:** Project Plan, Updating, Tracking, and Reporting **REC-1:** Commercial Fishing Operations Access Plan for Avila Beach Drive **TRA-1:** Truck Transportation Outside of Peak Hours **TRA-2:** Specialty Heavy-Haul Transport Vehicle Transportation Management Plan **TRA-3:** Decommissioning Liaison **TRA-4:** Advance Notification of Decommissioning **TRA-5:** Quarterly Decommissioning Updates
REC-3: Cause increased use or require the construction or expansion of existing local and regional parks or other recreational facilities	NI	NI/III	III	III/III	None required
REC-4: Expose users of recreational facilities to hazards during Project decommissioning	II	NI/NI	II	III/III	**EM-2:** Project Plan, Updating, Tracking, and Reporting **TRA-2:** Specialty Heavy-Haul Transport Vehicle Transportation Management Plan **TRA-3:** Decommissioning Liaison **TRA-4:** Advance Notification of Decommissioning **TRA-5:** Quarterly Decommissioning Updates
Cumulative Impact	Not cumulatively considerable		Not cumulatively considerable		None required

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long-Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

4.16 Transportation

This section describes the existing transportation facilities in the Project area. These transportation facilities include roadways, transit, rail corridors, waterways, and non-motorized transportation modes. This section also identifies laws and regulations applicable to transportation, identifies significance thresholds and assesses the Proposed Project's transportation impacts and their significance.

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and considered in preparing this section:

- Assess vehicle trips during decommissioning including the volume of truck traffic and describe what roads will be used.
- Assess use of roadways for heavy construction during any high traffic times.
- Analyze the range of impacts involving transportation and pedestrian safety and access.
- Study traffic circulation including traffic signals or other traffic control devices necessary to accommodate potential increase in truck hauling during decommissioning.
- Identify what type of trucks will be transporting the materials and specify how many a day would travel to each rail facility.
- Address hazards associated with transporting and storing nuclear waste including potential benefits of barge transportation over rail or roads.

4.16.1 Environmental Setting

4.16.1.1 Ground Transportation

Existing Regional Transportation System

As shown in Project Description Figure 2-1, US Route 101 (US-101), which generally runs in a north-south direction, provides the primary regional vehicular and truck access between the Diablo Canyon Power Plant (DCPP) and the Pismo Beach Railyard (PBR) or the Santa Maria Valley Railroad facility in unincorporated Santa Barbara County (SMVR-SB).

The region is served by a single, north-south rail line owned by the Union Pacific Railroad Company (UPRR); the rail corridor extends north towards San Francisco and south towards Los Angeles as the Santa Barbara Subdivision; on both ends the Subdivision connects with the larger Union Pacific and national freight railroad system. A rail connection to a shortline railroad, the Santa Maria Valley Railroad, extends east from the City of Guadalupe through unincorporated Santa Barbara County to the City of Santa Maria. Passenger rail along the north-south corridor is operated by Amtrak and includes the Coast Starlight, a once-daily long-distance train, and the Pacific Surfliner, which operates several roundtrips daily between San Luis Obispo and San Diego. Freight trains are active throughout the corridor, although the frequency and other characteristics of the freight service is unknown and subject to change per UPRR's customer needs and

business practices. As discussed in Section 1.3.3.2, *Surface Transportation Board*, construction activities at railroad facilities (e.g., SMVR-SB) and operations along rail lines are federally preempted.

Existing Street System

The existing roadway system includes the County of San Luis Obispo, County of Santa Barbara, City of Santa Maria, and City of Pismo Beach roadway networks. These roads include arterial and local streets that provide access to the Project sites off US-101. The following section details the roads affected by the Proposed Project in these jurisdictions. Street classifications for roadways are designated in each jurisdiction's respective General Plan.

County of San Luis Obispo

Street classifications are defined in the Land Use and Circulation Element of the County of San Luis Obispo General Plan, Framework for Planning (Inland) as follows (San Luis Obispo, 1980a):

- **Principal Arterial Roads:** A freeway, expressway, or principal county road that connects major population centers and other points of traffic generation. These roads have controlled access and are not intended for local trips.
- **Urban/Rural Arterial Road:** A road that carries traffic between principal arterial roads, centers of population, or carries large volumes of traffic within an urban or rural area. Arterials are not intended to provide primary access to residences and are best used for controlled access to areas of retail and service commercial uses, industrial facilities, and major community facilities.
- **Urban/Rural Collector Road:** A road that enables traffic to move to and from local roads, arterial roads, and activity centers. Collectors are the principal arterial of residential areas and often carry a relatively high volume of traffic. A collector also has the potential for sustaining minor retail establishments. Limits on residential driveway access should be based upon traffic volumes, parcel sizes and sight distances.
- **Local Road:** A road that is used primarily for access to adjacent property.
- **Grade Separation:** A crossing of two transportation routes at different levels such as two roads, or a road and a railroad.
- **Interchange:** A grade separation that includes ramps connecting the separated roadways to allow traffic to change between routes.

Roadways within San Luis Obispo County in the DCPP area include:

- Avila Beach Drive is an arterial road that runs through the unincorporated community of Avila Beach in an east-west direction. The road generally provides two travel lanes, with one lane in each direction. Avila Beach Drive runs from Port San Luis in the west to US-101 in the east. Avila Beach Drive provides a full access interchange to US-101 at Monte Road and Shell Beach Road. Avila Beach Drive is the only publicly-accessible road to the DCPP site, and is the only publicly-accessible road west of San Luis Bay Drive providing a direct connection to the Avila Beach community.

- San Luis Bay Drive is an arterial road that runs through the unincorporated community of Avila Beach, primarily in an east-west direction. The road generally provides two travel lanes, with one lane in each direction. San Luis Bay Drive runs from Avila Beach Drive in the west to US-101 in the east. San Luis Bay Drive provides a full access interchange to US-101 near Ontario Road.
- Intersecting streets between, but not connecting to, the DCPP site and US-101 include:
  - Babe Lane
  - Wild Cherry Canyon
  - Ana Bay Road
  - San Juan Street
  - San Miguel Street
  - San Luis Street
  - Cave Landing Road
  - San Luis Bay Drive
  - Ontario Road
  - Shell Beach Road
  - Monte Road
  - Bay Laurel Place
  - Apple Orchard Lane
  - Sparrow Street
  - See Canyon Road
  - Avila Valley Drive
  - Ontario Road

San Luis Obispo County does not have designated truck routes.

Existing transit services in the DCPP area (see Figure 4.16-1) include (SLO RTA, 2022a) (Amtrak, 2022):

- **Avila Beach Trolley.** The Avila Beach Trolley provides free transit services from Avila Beach to Pismo Beach, where it connects to SLO RTA (2022b) and South County Transit (SoCo Transit) services. The Avila Beach Trolley operates on weekends from July to September and runs on Avila Beach Drive, San Luis Bay Drive, and US-101.
- **Amtrak.** Amtrak provides a thruway bus service, Route 17, that operates on US-101 from Santa Barbara to the Bay Area and includes intermediary stops at Santa Maria, Grover Beach, and the San Luis Obispo Amtrak rail station. Route 17 offers eleven daily one-way trips. Riders must have a valid rail ticket to ride Amtrak thruway services, and tickets are not sold separately.

Existing and proposed bicycle facilities in the DCPP area (see Figure 4.16-2) include:

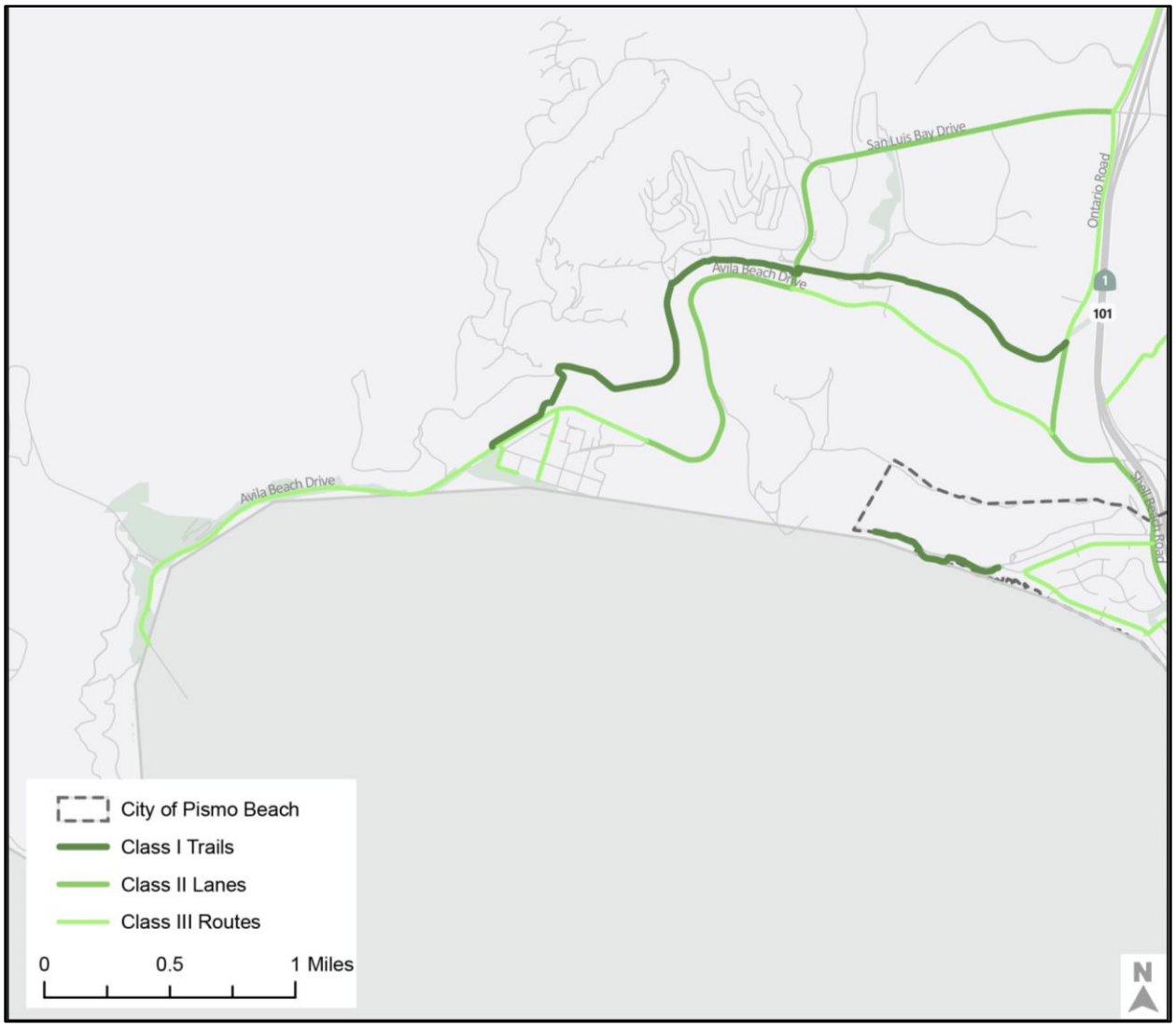
- Class I Bike Path – The Bob Jones Bike Trail runs from San Juan Street to Blue Heron Drive and parallels Avila Beach Drive for part of its route. The trail follows Blue Heron Drive and runs along San Luis Obispo Creek until it reaches the intersection of Ontario Road and US-101.
- Class II Bike Lanes on Avila Beach Drive – From San Luis Street to San Luis Bay Drive and from Ontario Road to Shell Beach Drive
- Class II Bike Lanes on San Luis Bay Drive – From Avila Beach Drive to Ontario Road and US-101
- Class III Bike Route on Avila Beach Drive – From Port San Luis Pier to San Luis Street, from San Luis Bay Drive to Ontario Road, and from Shell Beach Drive to Monte Road
- Class III Bike Route on San Luis Bay Drive – From Ontario Road to Monte Road

In addition to the Bob Jones Bike Trail, Avila Beach Drive includes sidewalks from the San Luis Creek Bridge to San Miguel Street, which provides pedestrian access in the area between the DCPP site and US-101.

Figure 4.16-1. Avila Beach Transit Services

Source: SLO RTA, 2022a; Amtrak, 2022

Figure 4.16-2. Avila Beach Bicycle Facilities



Source: San Luis Obispo, 2015.

City of Santa Maria

The Circulation Element of the City of Santa Maria General Plan (Santa Maria, 2011) categorizes streets on whether they emphasize mobility or access. Per the Circulation Element, "Mobility" means providing the ability for motorists to travel between their points of interest. Land access means providing access to properties at the final destination, which may include parking or driveway access. Street classifications are defined in the Circulation Element of the City of Santa Maria General Plan as follows:

- **Freeway:** Mobility, with no land access and limited access to primary arterial streets.
- **Primary Arterial:** Mobility, with intermittent access to arterials, other streets, and freeways and with minimal direct land access.
- **Secondary Arterial:** Mobility, with access to collectors, some local streets, and major traffic-generating land uses.

- **Collector:** Mixed, with access provided from local streets to arterials, and access also provided to some adjacent land uses.
- **Local:** Primary purpose is to provide access to collector streets.
- **Minor:** Land access, with access to local and collector streets.

Roadways within the City of Santa Maria used to access the SMVR-SB site include:

- Betteravia Road – Betteravia Road is a primary arterial road that runs through the City of Santa Maria in an east-west direction. The road generally provides six travel lanes, with three lanes in either direction, and a center lane for left turns. Betteravia Road runs from Simas Road in the west to Foxen Canyon Road and Philbric Road in the east. Betteravia Road provides a full access interchange to US-101 and provides direct access to the SMVR-SB site.

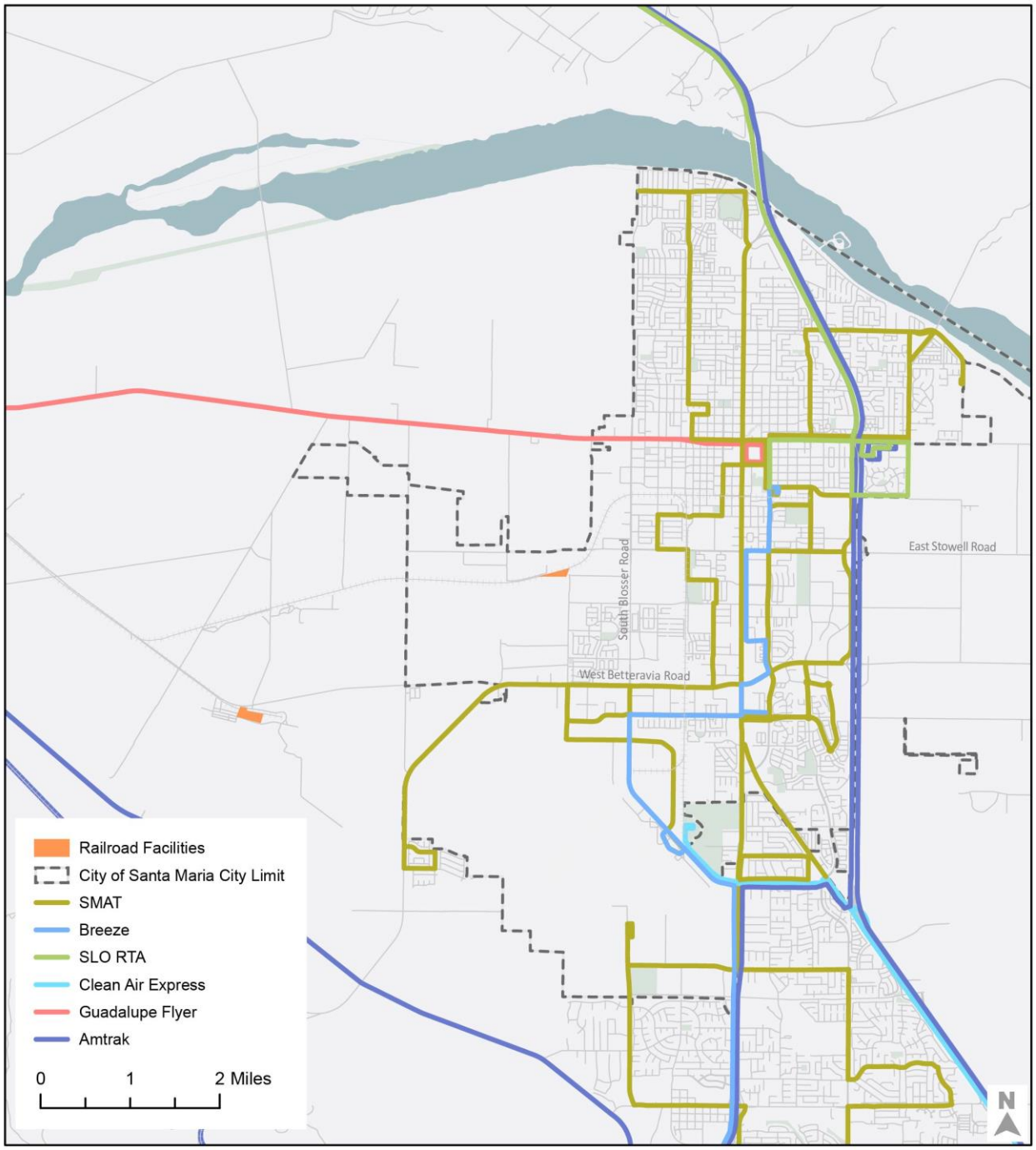
Truck routes within the City of Santa Maria include:

- Main Street
- Stowell Road
- Betteravia Road
- Clark Avenue

Transit services in the City of Santa Maria are provided by Santa Maria Area Transit (SMAT) and The Breeze Bus (Breeze) (see Figure 4.16-3). Several SMAT and Breeze bus routes operate along Betteravia Road (Amtrak, 2022) (Breeze Bus, 2022) (Santa Maria, 2022).

- **SMAT Route 2.** Route 2 operates along Betteravia Road for part of its route and provides transit services from the County Government Center to Taylor Street. Route 2 is primarily a north-south route that provides access to various destinations, including the Santa Maria Transit Center.
- **SMAT Route 4.** Route 4 operates along Stowell Road and Betteravia Road for part of its route and provides transit services from the Santa Maria Public Airport to the Edwards Community Center. Route 4 is primarily a north-south route that provides access to various destinations, including the Santa Maria Transit Center.
- **SMAT Routes 5 and 6.** Routes 5 and 6 operate along Betteravia Road for part of their route and provide transit service from the southern City of Santa Maria city limit to the Santa Maria Transit Center. Routes 5 and 6 are circular routes that provide access to various destinations, including Santa Maria High School and the County Government Center. Route 5 operates counterclockwise, and Route 6 operates in a clockwise direction along the same streets.
- **SMAT Route 8.** Route 8 operates eastbound along Betteravia Road for much of its route and provides transit services from Tanglewood Drive to the County Government Center. Route 8 is primarily an east-west route that provides access to various destinations, including the Santa Maria Police Station.

Figure 4.16-3. Santa Maria Transit Services



Source: Amtrak, 2022; Santa Maria, 2022; San Luis Obispo, 2015; Santa Barbara 2014; SMOOTH, 2022.

- **Breeze Route 100.** Route 100 operates along Stowell Road for part of its route and provides transit service from the Santa Maria Transit Center to the Lompoc Transit Center. Route 100 also operates along Betteravia Road to access the County Government Center on select runs. Route 100 is primarily a north-south route that provides access to Santa Maria Airport, Vandenberg Air Force Base, and Lompoc.

- **Amtrak.** In addition to Amtrak's thruway bus service, Route 17, which operates on US-101 from Santa Barbara to the Bay Area with an intermediate stop at the Santa Maria Transit Center, the Amtrak Pacific Surfliner and Coast Starlight rail services operates on Union Pacific tracks that parallel State Route 1 in the Santa Maria area.

Existing bicycle facilities between US-101 and the SMVR-SB site (see Figure 4.16-4) include:

- Class II Bike Lanes on Betteravia Road – From South Broadway (California State Route 135) to Philbric Road

Existing pedestrian facilities between US-101 and the SMVR-SB site include:

- Betteravia Road includes continuous sidewalks, on at least one side of the street, between US-101 and A Street.

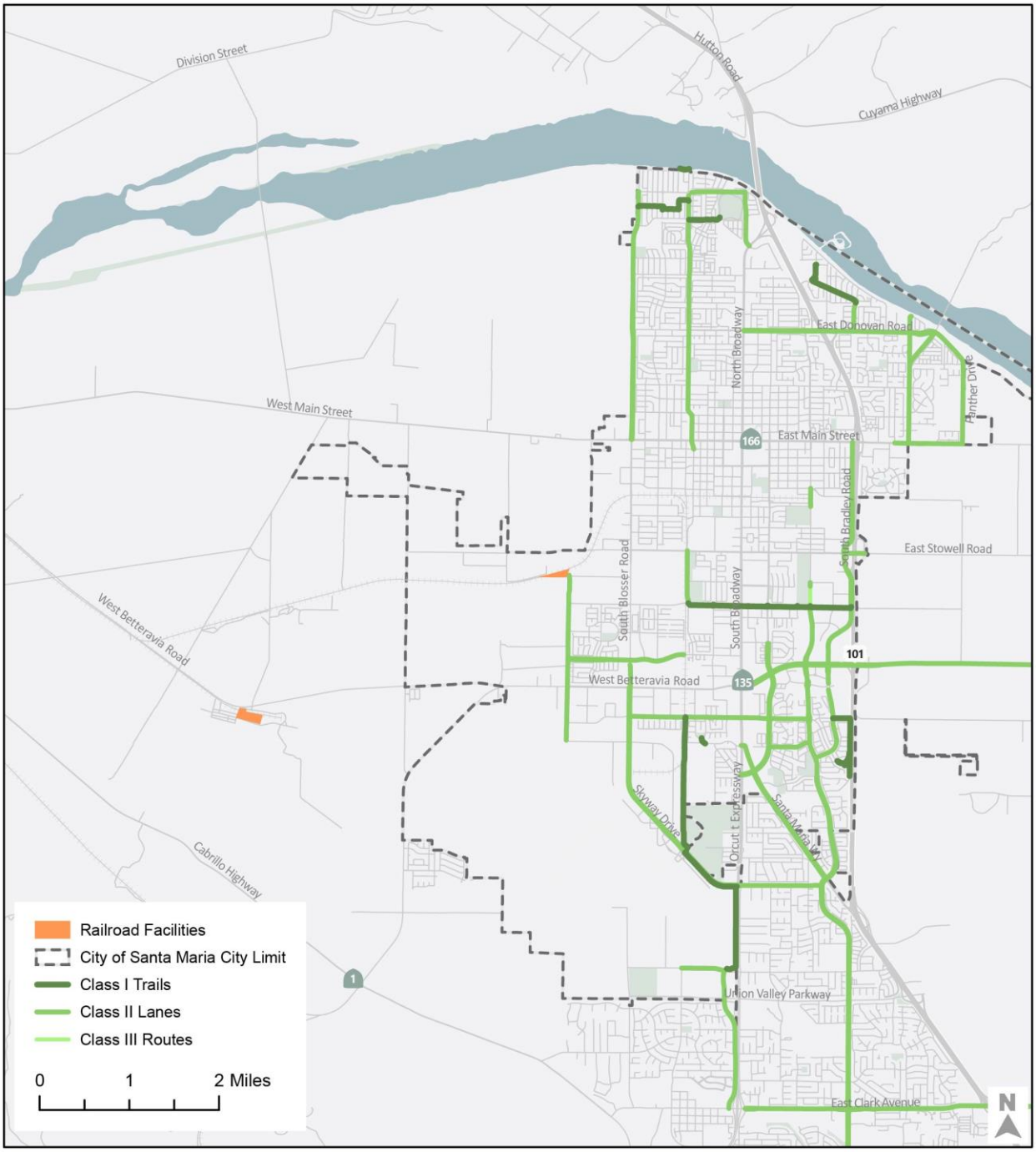
County of Santa Barbara

Street classifications are defined in the Circulation Element of the County of Santa Barbara Comprehensive Plan as follows (Santa Barbara, 2014):

- **Freeway:** A four or six lane divided arterial highway with full control of access and with grade separations at intersections. As the highest type of road facility, Freeways provide maximum service and safety for through traffic. Freeways serve as the principal arterials of the inter- and intra-state system of highways, carrying traffic between cities, traffic generators and points of interest.
- **Expressway:** A four lane arterial highway with at least partial control of which may or may not be divided or have grade separations at intersections. As a secondary type of intercity or community highway, Expressways carry much of the traffic between important centers of activity and employment.
- **Two Lane Expressway:** A two lane arterial highway with at least partial control of access which may have grade separations at intersections. As a secondary type of intercity or community highway, Expressways carry much of the traffic between important centers of activity and employment.
- **Arterial Road:** A divided four lane road with intersections at grade, and partial control of access. Arterial roads serve as the highest type of facility carrying local traffic within communities. With emphasis on through traffic carrying capability, these roads serve as principal access routes to shopping areas, places of employment, community centers, recreational areas, and other places of assembly.

  Major Road: An undivided four lane road with intersections at grade and partial control of access. Major roads serve as a secondary type of arterial facility carrying local through traffic within communities. Major Roads frequently serve as access to shopping areas, employment centers, recreational areas, residential areas, and places of assembly.

Figure 4.16-4. Santa Maria Bicycle Facilities



Source: Santa Barbara, 2014.

- **Two Lane Major Road:** An undivided, two-lane road with intersections at grade and partial control of access. Two Lane Major Roads serve as a secondary type of arterial facility carrying local though traffic within communities. Two Lane Major Roads frequently serve as access to shopping areas, employment centers, recreational areas, residential areas, and places of assembly. Where such roads serve industrially zoned property, the County Standard Industrial Street Section using 10-foot parking shoulders shall be used.

- **Collector Road:** A two lane undivided road with intersections at grade and designed to take a minimum interference of traffic from driveways. Collector Roads are designed to provide principal access to residential areas or to connect streets of higher classifications to permit adequate traffic circulation.

Roadways within the County of Santa Barbara to access the SMVR-SB site include:

- Betteravia Road – Betteravia Road is a Collector Road than runs through both the City of Santa Maria and unincorporated Santa Barbara County in an east-west direction. The road generally provides two travel lanes, with one lane in either direction. Betteravia Road runs from Simas Road in the west to Foxen Canyon Road and Philbric Road in the east. Betteravia Road provides access to US-101. Betteravia Road provides direct access to the SMVR-SB site at Simon Road.

The County of Santa Barbara does not have designated truck routes. However, the Santa Barbara County Code of Ordinances prohibits the use of trucks on the following roadways (Santa Barbara, 2017):

- Ballard Canyon Road – Motor trucks, over thirty feet in combined length, with three or more axles are prohibited
- Harris Grade Road – Autos with trailers over thirty feet in combined length, and trucks over thirty feet in combined length are prohibited.
- Painted Cave Road – Autos with trailers over thirty feet in combined length, and trucks over thirty feet in combined length are prohibited.
- San Marcos Road – Autos with trailers over thirty feet in combined length, and trucks over thirty feet in combined length are prohibited.

City of Pismo Beach

Street classifications are defined in the Circulation Element of the City of Pismo Beach General Plan as follows (Pismo Beach, 2019):

- **Freeways:** Provide high-speed intra- and inter-regional mobility. Access is typically restricted to arterials via interchanges, with grade-separated crossings and wide, continuous medians separate lanes traveling in opposite directions. Typically, the maximum speed limit on freeways ranges from 50 to 65 miles per hour (mph) with usually one mile or greater spacing between interchanges. US-101 is the only freeway in the city with multiple full or partial interchanges; ramps are closely spaced near Downtown and the Pismo Outlets.

- **Arterials:** Serve to connect areas of major activity within the urban or suburban area and function to distribute traffic between freeways or expressways and collector streets. Arterials have limited access directly to adjacent land uses. Typical arterials within the city are two to four lanes with speed limits ranging from 30 to 50 mph.

- **Collectors:** Function as connector routes between local and arterial streets, and provide access to residential, commercial, industrial (etc.) areas. Collector streets also provide direct access to adjacent properties; driveway access is not restricted but access should be managed so that driveway spacing does not inhibit the flow of traffic. Collectors within the City are typically two lanes with speed limits ranging from 30 to 45 mph.

- **Local Streets:** Provide direct access to adjacent properties and allow for localized movement of traffic. Local streets are characterized by low daily traffic volumes and speed limits of 25 to 30 mph. Although bike lanes are generally not required on local streets, it is assumed that local streets are bike-friendly and may be informally considered a Class III Bike Route.

Roadways within the City of Pismo Beach to access the PBR site include:

- Price Canyon Road – Price Canyon Road is an arterial road that runs through the City of Pismo Beach in a north-south direction. The road generally provides two travel lanes, with one lane in either direction. Price Canyon Road runs from Bello Street, where it turns into Hinds Avenue in the south to Carpenter Canyon Road (California State Route 227). Price Canyon Road provides an interchange with US-101 (southbound off-ramp only) via Hinds Avenue. Price Canyon Road provides direct access to the PBR site.
- Hinds Avenue – Hinds Avenue is a collector road in the City of Pismo Beach that runs in an east-west direction. The road generally provides two travel lanes and operates as an eastbound one-way street from the Pismo Beach Pier to Price Street. Hinds Avenue is a two-way street from Price Street until it becomes Price Canyon Road. Hinds Avenue provides an interchange with US-101 (southbound off-ramp only).
- Price Street – Price Street is an arterial road in the City of Pismo Beach that runs in a north-south direction. The road generally provides two travel lanes. Price Street includes central lane for left turns or center diagonal parking in select segments. Price Street runs from US-101 and Ocean View Avenue in the south to Cliff Avenue in the north when the street turns into Shell Beach Road. Price Street provides an interchange with US-101 (southbound on-ramp and northbound off-ramp) at Ocean View Avenue, an interchange with US-101 (southbound off-ramp only) at Cabrillo Highway, an interchange with US-101 (southbound off-ramp only) near Mattie Road, and an interchange with US-101 (southbound on-ramp only) near Cliff Avenue.
- Bello Street – Bello Street is a collector road in the City of Pismo Beach that runs in an east-west direction. The road generally provides two travel lanes, with one lane in either direction. Bello Street runs from a US-101 northbound ramp and Bay Street in the east to the PBR site in the west. Bello Street provides an interchange with US-101 (northbound on-ramp only) at Bay Street. Bello Street provides direct access to the PBR site.
- Intersecting streets between US-101 and the PBR site include:
  - Bay Street
  - Harloe Avenue
  - San Luis Avenue
  - Wadsworth Avenue
  - Pismo Avenue
  - Main Street
  - Stimson Avenue/Bettiga Way
  - Solar Way
  - Ocean View Avenue

Truck routes within the City of Pismo Beach include:

- Dolliver Street;
- Price Street;
- Hinds Avenue, between Bello and Dolliver Streets;
- Price Canyon Road, from the city limit to Bello Street;

- Bello Street, from the Edna Road to Hinds Avenue; and
- Ocean View Avenue, between Price Street and Dolliver Street.

Transit services in the City of Pismo Beach are provided by SLO RTA and SoCo Transit. Several SLO RTA and SoCo Transit bus routes operate on roads that will be used for the Proposed Project (see Figure 4.16-5) (Amtrak, 2022) (SLO RTA, 2022a).

- **RTA Route 10.** Route 10 operates along US-101 for most of its route and provides transit service between San Luis Obispo and the Santa Maria Transit Center. Route 10 is primarily a north-south route that provides access to Pismo Beach Premium Outlets.
- **South County Transit (SoCo Transit) Routes 21 and 24.** Routes 21 and 24 operate along Price Street for part of their route. Routes 21 and 24 are circular routes that provide access to various destinations, including the Pismo Beach Premium Outlets. Route 24 operates counterclockwise, and route 21 operates in a clockwise direction. Routes 21 and 24 operate along the same streets for most of their route.
- **Amtrak.** Amtrak's thruway bus service, Route 17, operates on US-101 from Santa Barbara to the Bay Area with an intermediate stop at Grover Beach. The bus uses South Dolliver Street to access US-101 in the City of Pismo Beach. Additionally, the Pacific Surfliner and Coast Starlight rail services operates on Union Pacific tracks that run adjacent to and serve the Pismo Beach Railyard.

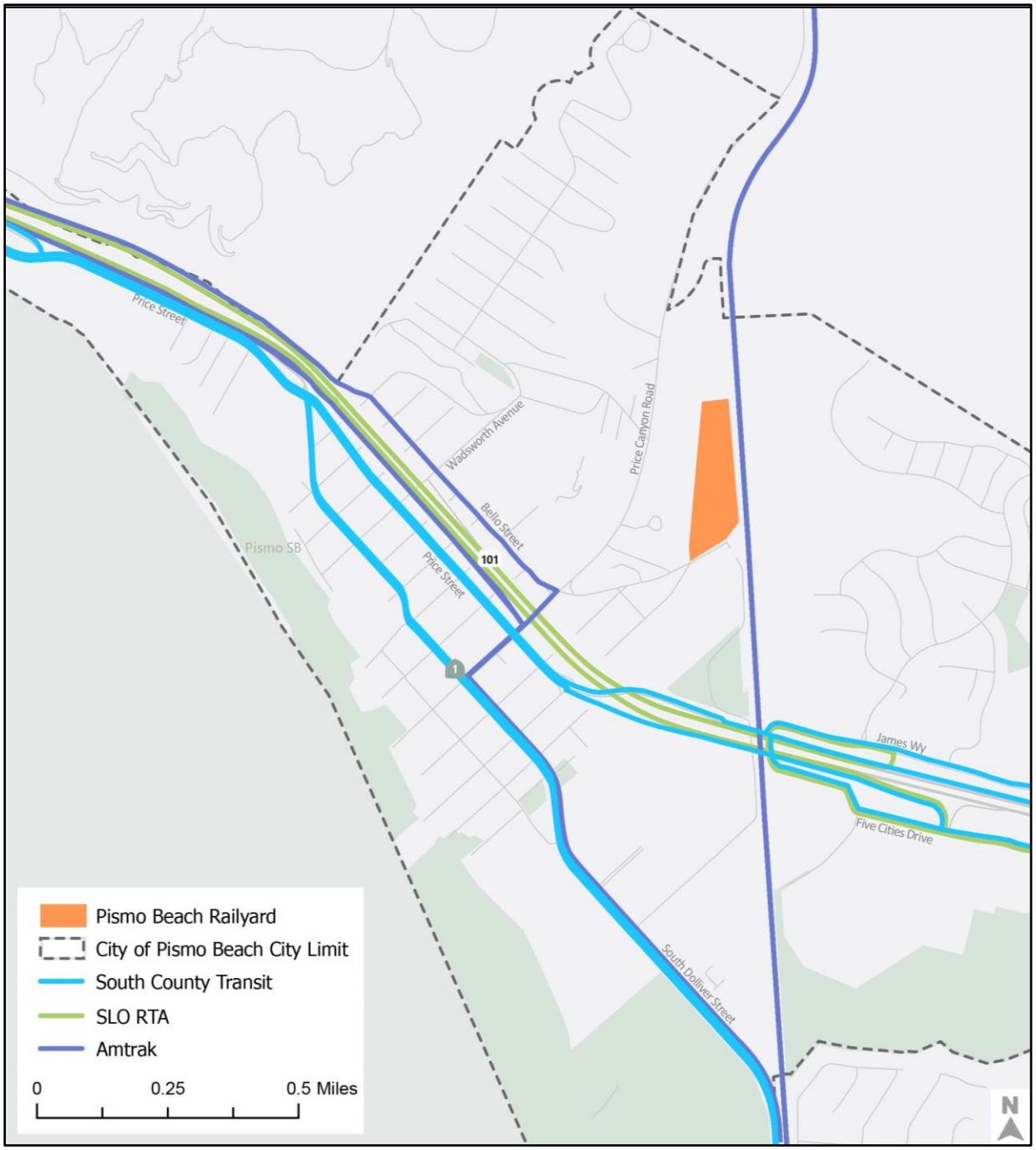
Existing bicycle facilities between US-101 and the PBR site (see Figure 4.16-6) include:

- Class II Bike Lanes on Price Street – From Cabrillo Highway to Cliff Ave, where Price Street turns into Shell Beach Road. The Class II lanes continue on Shell Beach Road until Avila Beach Drive
- Class III Bike Route on Price Street – From Cabrillo Highway to Ocean View Avenue
- Class III Bike Route on Hinds Avenue – From Pismo Beach Pier to US-101, where Hinds Avenue turns into Price Canyon Road
- Class III Bike Route on Price Canyon Road – From Hinds Avenue to Bello Street

Existing pedestrian facilities between US-101 and the PBR site include:

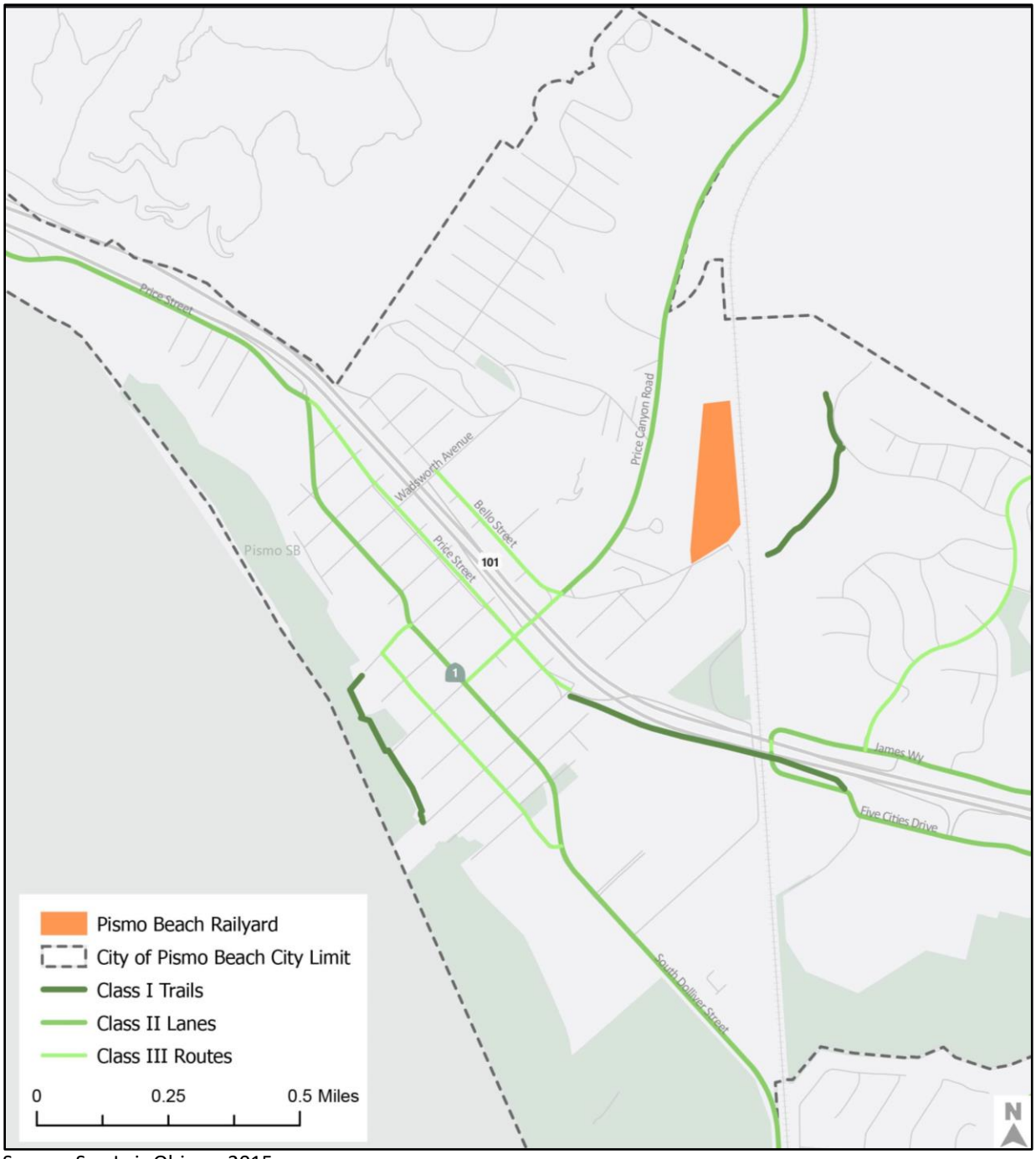
- Hinds Avenue and Price Canyon Road have continuous sidewalks, on both sides of the street, between US-101 and Bello Street. Price Canyon Road does not include a sidewalk between Bello Street and the PBR site. Bello Street has continuous sidewalks from Bay Street and the US-101 northbound on ramp and Price Canyon Road

Figure 4.16-5. Pismo Beach Transit Services



Source: Amtrak, 2022; San Luis Obispo, 2015.

Figure 4.16-6. Pismo Beach Bicycle Facilities



Source: San Luis Obispo, 2015.

4.16.1.2 Marine Transportation

Marine Vessel Study Area

The marine vessel study area is based on the proposed barge route to export waste during decommissioning activities for the Project (see Figure 4.16-7); the proposed barge routes from the Port of Long Beach and Santa Catalina Island to import materials (see Figure 4.16-8); and the proposed barge route between DCPP and Port San Luis Harbor for staging of barges (see Figure 4.16-9).

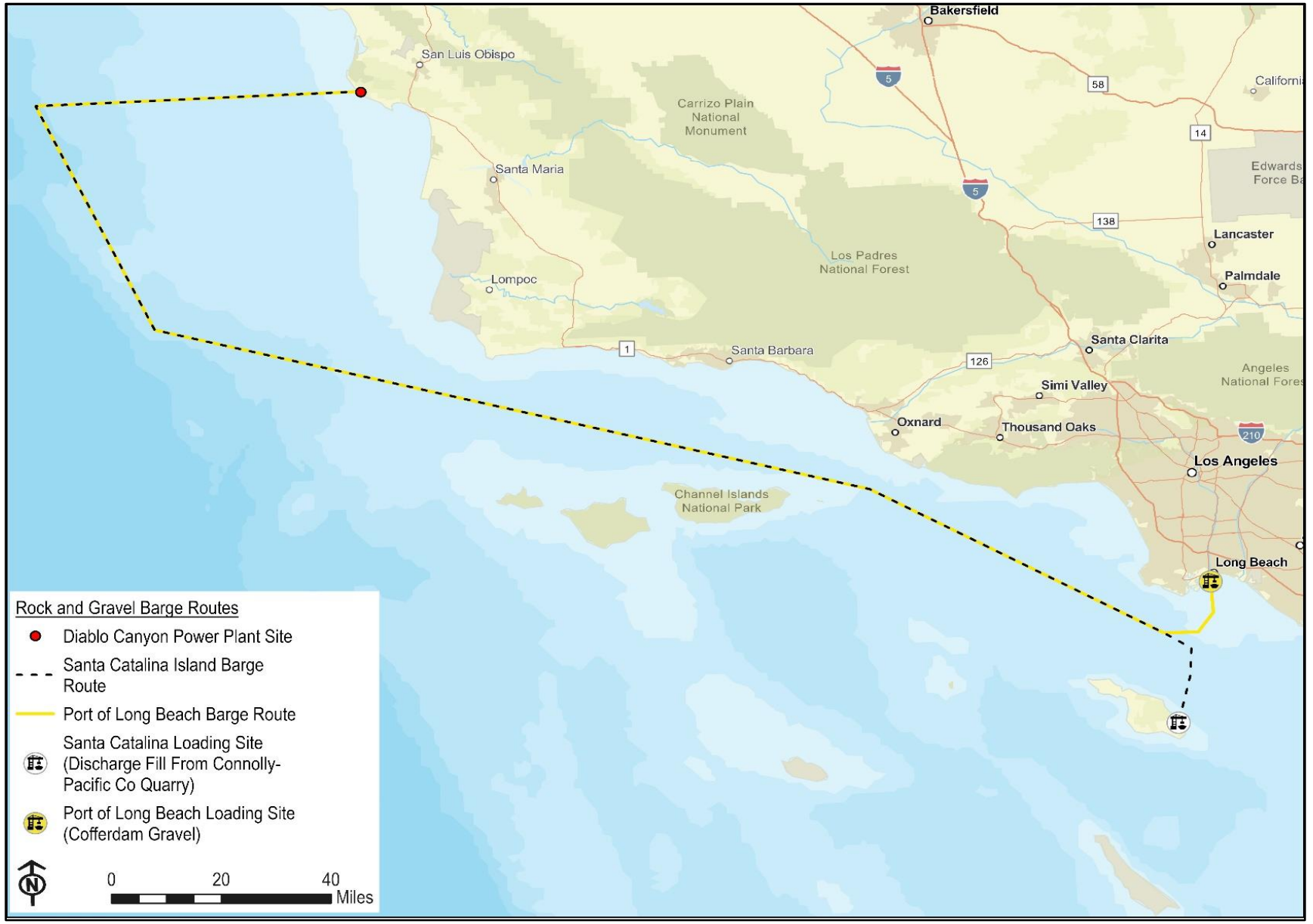
During decommissioning, various waste types would be exported by barge from the DCPP Intake Cove to the Port of Portland and the Port of Morrow in Portland and Boardman, Oregon, respectively (PG&E, 2021c). Barge trips would also be required to transport gravel from the Port of Long Beach to fill the Discharge Structure cofferdam, as well as from Santa Catalina Island to transport rock and boulders to fill the Discharge Structure void left in the bluff. Lastly, barges used for the Proposed Project would be temporarily staged at Port San Luis Harbor (PG&E, 2021b). Therefore, barges would need to be transported to and from this location.

Figure 4.16-7. Barge Route for Waste Export from the DCPP Site to Portland and Boardman, Oregon

Source: Esri, 2023; PG&E, 2021b; and PG&E, 2021d; and PG&E, 2022e – Figures 3.1-1 and 3.1-2.

The marine vessel study area extends approximately 50 nautical miles offshore in international waters from the coastline of California and Oregon (one nautical mile is equivalent to approximately 1.15 miles) and includes the barge routes from the DCPP Intake Cove to the Port of Portland in Portland, Oregon (approximately 1,020 miles) or to the Port of Morrow (approximately 1,180 miles) in Boardman, Oregon. In addition, the study area includes the barge routes from the Port of Long Beach to the DCPP Intake Cove (approximately 321 miles) and Santa Catalina Island to the DCPP Intake Cove (approximately 325 miles), both of which would occur 50 nautical miles offshore. Lastly, the study area includes an approximately 6-mile-long barge route between the DCPP Intake Cove and the Port San Luis Harbor.

Figure 4.16-8. Barge Routes to Import Cofferdam Gravel and Discharge Structure Area Fill



Source: Esri, 2023; and PG&E, 2022d – Figures 3.2-1 and 3.3-1.

Maritime Limits and Boundaries

Within the marine vessel study area, state waters extend out to 3 nautical miles off the state's coastline. Federal waters extend from the state water boundary to 200 nautical miles from the coastline. Federal waters are further divided into three areas: (1) the territorial sea, which extends to 12 nautical miles; (2) the contiguous zone, which is from 12 to 24 nautical miles; and (3) the exclusive economic zone, which is from 12 to 200 nautical miles, overlapping with the contiguous zone. International waters begin at 24 nautical miles from the coastline.

Marine Vessel Safety

The US Coast Guard, which operates under the US Department of Homeland Security during peacetime, is responsible for maritime safety, security, and stewardship. The marine vessel study area is within two US Coast Guard Districts:

- US Coast Guard District 11: District 11 encompasses the states of California, Arizona, Nevada, and Utah and their coastal and offshore waters, and the offshore waters of Mexico and Central America down to South America.
- US Coast Guard District 13: District 13 encompasses the states of Oregon, Washington, Idaho, and Montana and their coastal and offshore waters.

Each US Coast Guard District publishes a weekly Notice to Mariners, which is the primary means of disseminating information pertaining to navigational safety and other items of interest to mariners (PG&E, 2021b). Information contained in the Notice to Mariners includes reports of hazards to navigation, channel conditions, obstructions, dangers, anchorages, restricted areas, regattas, construction or modification of bridges, construction or removal of oil platforms, and laying of undersea cable. Notices are developed from information received from US Coast Guard field units, the general public, the US Army Corps of Engineers, US Merchant Fleet, National Ocean Service, and other sources, concerning the establishment of, changes to, and deficiencies in aids to navigation and any other information pertaining to the safety of the waterways.

The US Coast Guard uses a wide range of techniques and regulations to prevent vessel collisions, and groundings in the approach, harbor, and inland waterway phases of navigation. There are several specific types of navigational regulation systems that govern the shipment of goods in offshore areas. In areas where international ships converge at headlands, straits, and major harbors, the US Coast Guard and the International Marine Organization Traffic Separation Schemes (TSSs) to separate vessels and control crossing and meeting situations.

Marine vessels are also required to comply with Federal Inland Navigation Rules and the California Harbors and Navigation Code.

Marine Vessel Traffic Near the DCPP Site

The DCPP site is located along the central California coast, approximately 7 miles northwest of Avila Beach, 12 miles west-southwest of the City of San Luis Obispo, and directly southeast of Montaña de Oro State Park. The DCPP Intake Cove is approximately 10 acres in size and has been used for a variety of purposes over the years, including the transport via barge/tugboat to the DCPP of new steam generators as part of the Steam Generator Replacement Project in the mid-

2000s, as well as for delivery of oversized equipment including electrical transformers. In addition, the DCPP Intake Cove was previously utilized as a safe harbor for personal and commercial marine vessels in distress (PG&E, 2021b). However, as shown in Figure 4.16-9, a 2,000-yard (one nautical mile) security exclusion zone is currently maintained around the DCPP site, which limits how close private boats can get to the DCPP (PG&E, 2022b).

As described in the Project Description, this security exclusion zone was established by the US Coast Guard and US Department of Transportation and became effective in January 2003 to increase safety and security measures on the water fronts of nuclear power plants following the September 11, 2001, terrorist attacks against the United States. Entrance into the zone is prohibited unless specifically authorized by the US Coast Guard Captain of the Port for Sector Los Angeles-Long Beach (USCG and USDOT, 2002).

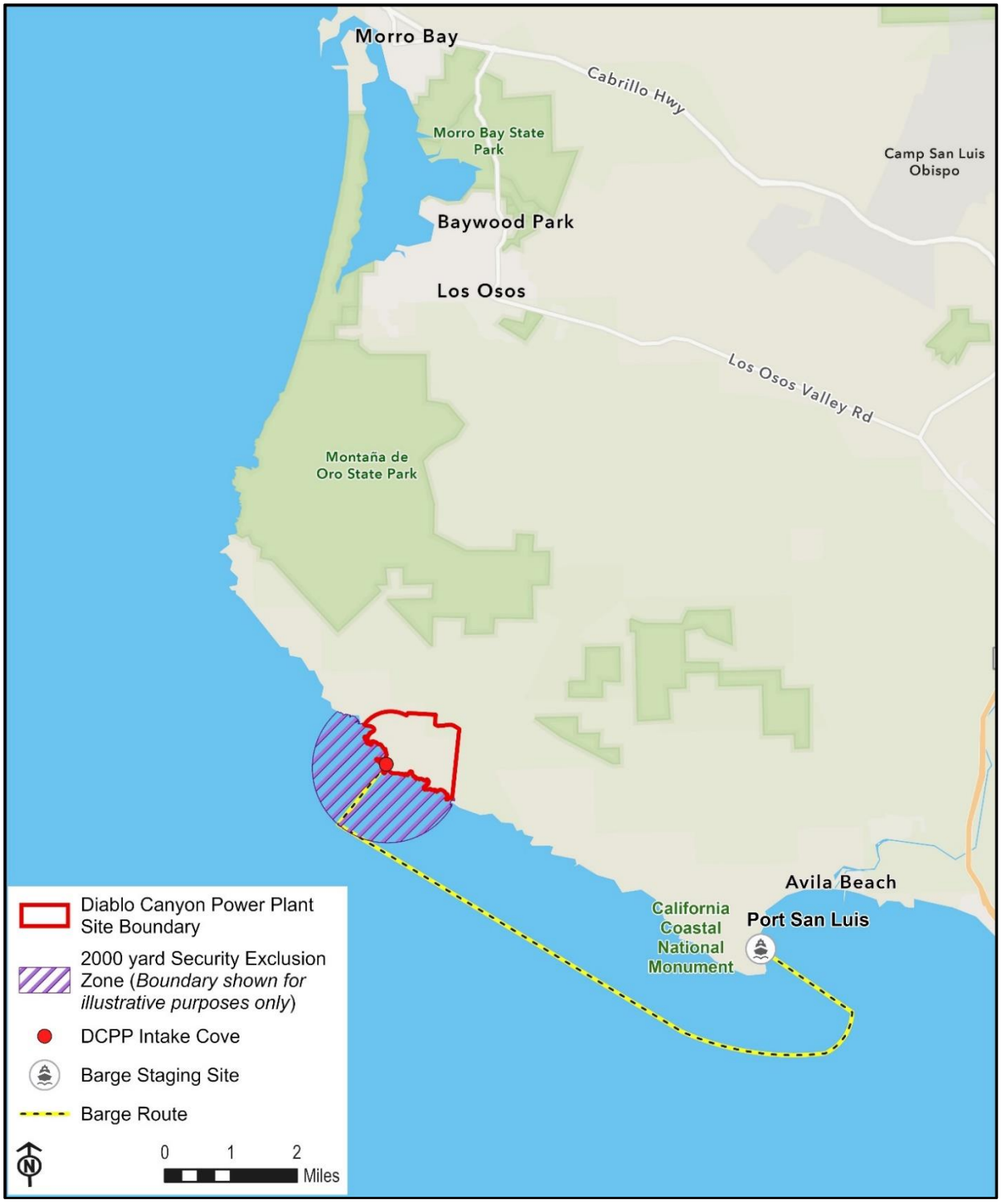
As shown in Figure 4.16-9, Port San Luis Harbor is in Avila Beach, approximately 7 miles southeast of the DCPP site in an unincorporated area of San Luis Obispo County. The harbor includes 278 moorings, with approximately 180 moorings occupied as of August 2020. Depending on where the mooring is located in the harbor, the water depth is approximately 20 to 40 feet. Every 15 years, the breakwater in Port San Luis Harbor requires repairs, which includes use of a barge. These repairs are facilitated by the US Army Corps of Engineers and usually last about 6 months. Repairs on the breakwater are expected to take place in approximately 2023, prior to commencement of the Proposed Project (PG&E, 2021b).

Within the Port San Luis Harbor District's jurisdiction are three piers: Avila Pier, which is used for fishing; Cal Poly Pier, which is owned by Cal Poly, San Luis Obispo and used as a marine research and education facility; and Port San Luis Pier (Harford Pier), which is open to the public and is the hub of commercial and recreational fishing activity in the Harbor District (PG&E, 2021b). Small boats, weighing less than 1,000 pounds including gear and engine, may be self-launched from the base of the pier. Additionally, boats up to 28 feet and 15,000 pounds, or 60 feet long, 18 feet beam, and 60 gross tons can be launched from the Port San Luis Boatyard by trailer or mobile hoist, respectively.

During Project implementation, barges used for the Proposed Project would be temporarily staged at Port San Luis Harbor (PG&E, 2021b). As described in Section 2.3.19.1, *Waste Transportation*, to support the Proposed Project, two empty barges would be stored at an offshore mooring in Avila Bay/Port San Luis for approximately one to two weeks at a time, and then transported to the DCPP Intake Cove when sufficient waste containers are filled and ready for loading. The proposed barge route between Port San Luis Harbor and the DCPP Intake Cove is shown in Figure 4.16-9.

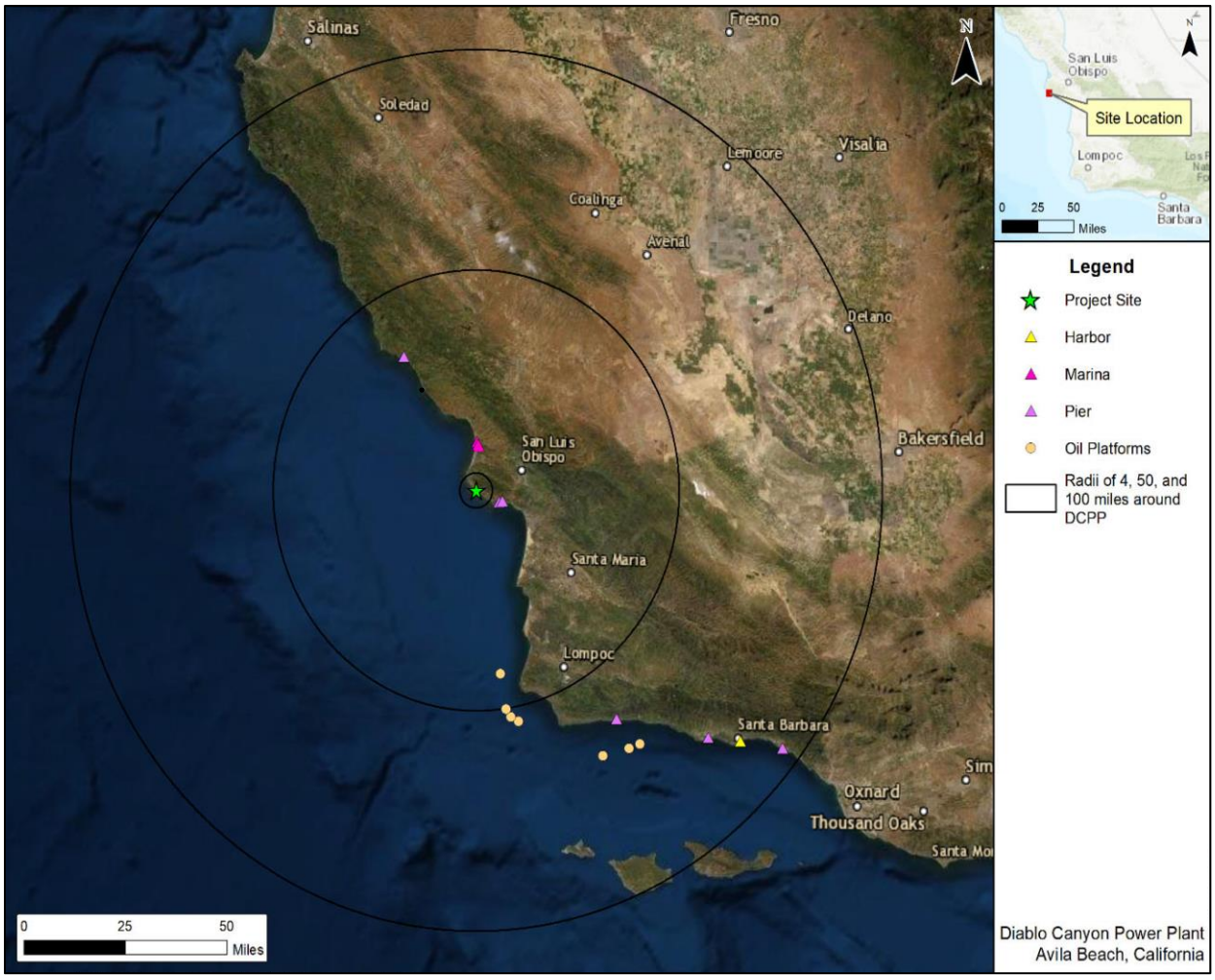
Offshore marine traffic around the DCPP site includes commercial and sport fishing, recreational boating out of Port San Luis Harbor to the southeast and Morro Bay Harbor to the north of the DCPP, and vessel traffic (e.g., container ships, oil tankers, auto carriers, and other miscellaneous bulk carriers) between San Francisco Bay and the Port of Long Beach or Port of Los Angeles (PG&E, 2021b). Figure 4.16-10 shows the location of the DCPP site, as well as ports, harbors, marinas, piers, and oil platforms within 4, 50, and 100 miles of the DCPP site.

Figure 4.16-9. DCPP Site Security Exclusion Zone and Route Between DCPP and Port San Luis



Source: PG&E, 2021b and 2022b.

Figure 4.16-10. DCPP Site and Surrounding Marine Transportation Facilities and Oil Platforms



Source: PG&E, 2022d – Figure 1-1.

More than 4,000 large vessels travel along the central California coast every year, most within 15 nautical miles of the shoreline of San Luis Obispo County (PG&E, 2011). The majority of these vessels are fishing and recreational vessels that operate out of Morro Bay Harbor and to a lesser extent, Port San Luis Harbor. Because the DCPP is situated between San Luis Bay and Morro Bay, two popular destinations for marine recreation, pleasure crafts are commonly observed near the DCPP vicinity (PG&E, 2021b).

Marine Vessel Traffic Off the California Coast

Designated coastwise shipping traffic lanes have been established by the US Coast Guard and the International Marine Organization along two portions of the California coast: (1) in the vicinity of the entrance to San Francisco Bay, and (2) from Point Conception (Santa Barbara County) south-east to the vicinity of the entrance to the Ports of Los Angeles and Long Beach (PG&E, 2012). The shipping lanes are generally 4 to 20 nautical miles offshore and are separated by an approximately one nautical mile separation zone. Vessel traffic within these lanes may include tanker ships, container ships, military vessels, research vessels, cruise ships, tugs and tows, commercial fishing boats, and recreational vessels.

Where shipping lanes have not been established, such as the central coast of California, navigation practice has produced a pattern of traffic flow at various distances from shore based on transit direction, vessel type, and cargo. Members of the Western States Petroleum Association, whose tankers carry crude oil from Alaska, agreed in 1990 to voluntarily keep laden vessels a minimum of 50 nautical miles from shore along the California central coast. Slower ocean tank barges transit the central coast approximately 15 to 25 nautical miles from shore to minimize interaction with the offshore oil tankers and the inshore container ships (PG&E, 2012).

In 2000, an agreement was made between US shipping officials; the International Maritime Organization; and the Monterey Bay, Gulf of the Farallones, and Channel Islands National Marine Sanctuaries which specified distances from the shoreline that various commercial vessel types were to remain while in transit offshore the central California coast. While large vessels were to remain 15 to 23 nautical miles offshore, ships carrying hazardous materials were to remain 29 to 34.5 nautical miles offshore, and tankers were required to stay at least 57.5 nautical miles offshore.

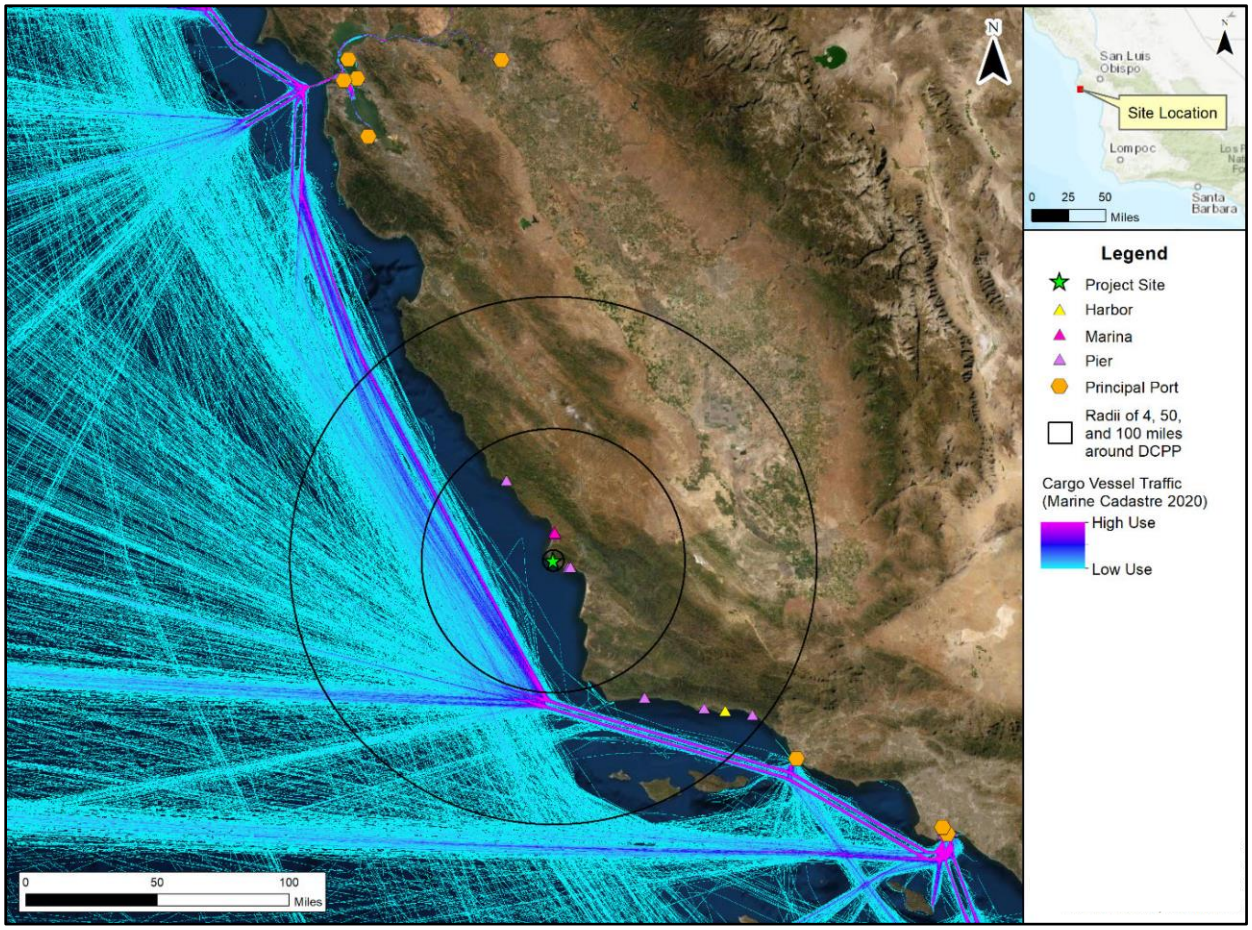
The Monterey Bay National Marine Sanctuary is located along the central California coast between Cambria (approximately 28 miles northwest of the DCPP site) and the Marin Headlands (just north of San Francisco) and extends up to 50 nautical miles offshore (NOAA, 2019). Recommended tracks for vessels carrying hazardous cargo in bulk are 25 nautical miles offshore going northbound and 30 nautical miles offshore going southbound between Pigeon Point and Point Sur within the Marine Sanctuary boundaries (NOAA, 2015).

The barge route for waste export during decommissioning activities for the Proposed Project would be approximately 50 nautical miles offshore in international waters (PG&E, 2021b); therefore, barges associated with waste export would not travel within designated shipping lanes but would be within the same area as offshore oil tankers (a minimum of 50 nautical miles from shore).

Baseline data for oil platforms and marine traffic from cargo vessels, fishing vessels, and pleasure crafts were identified between the Port of Oakland and the Port of Los Angeles using the most recent data from the Marine Cadastre, an initiative by the Bureau of Ocean Energy Management and the National Oceanic and Atmospheric Administration (NOAA) to consolidate marine data. Traffic between these two ports was considered since the Port of Long Beach, followed by Port of Los Angeles, is the most active port on the West Coast of the United States. Harbormasters within 100 miles of the Project site were also contacted to obtain information regarding vessel traffic.

Cargo traffic between the Port of Oakland and the Port of Los Angeles is shown in Figure 4.16-11. Cargo traffic typically occurs beyond 10 nautical miles outward from the coast and is mostly consolidated into six shipping lanes, which are highlighted in dark blue and purple.

Figure 4.16-11. Cargo Vessel Traffic Between the Port of Oakland and Port of Los Angeles



Source: PG&E, 2022d – Figure 2.2.1-1.

Recreational fishing vessels, pleasure crafts, and sailing activity mostly occurs within 50 nautical miles of the coast, with some crafts traversing within 4 nautical miles of the DCPP. Figure 4.16-12 shows traffic caused by fishing activity between the Port of Oakland and the Port of Los Angeles. Figure 4.16-13 shows traffic caused by pleasure crafts between these two ports.

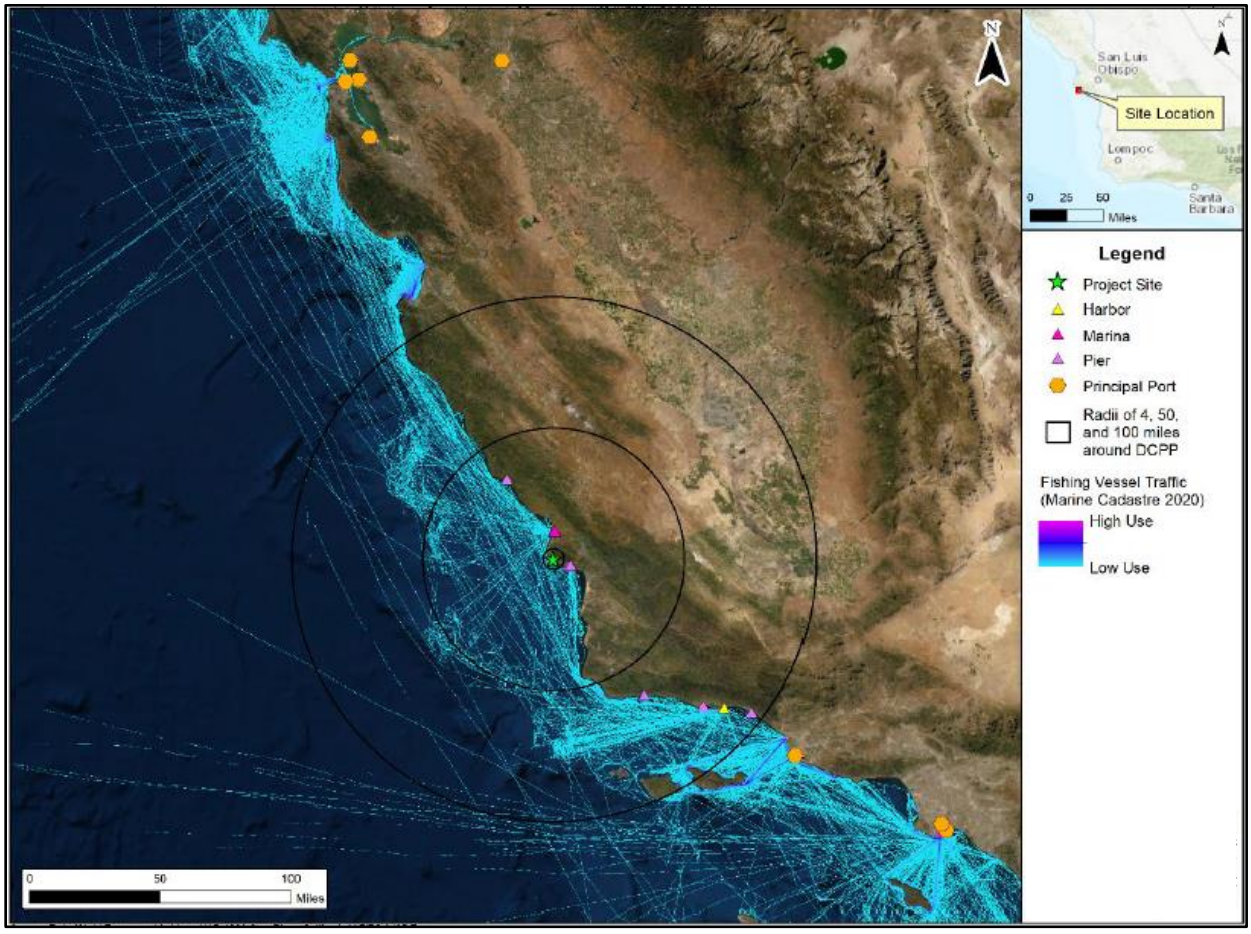
Marine Vessel Traffic on the Columbia River

As shown in Figure 4.16-14, the barge route for waste export under the Proposed Project would extend from the Pacific Ocean east along the Columbia River to the Port of Portland and the Port of Morrow in Portland and Boardman, Oregon, respectively. The Columbia River includes a 600-foot-wide, 43-foot-deep navigation channel that generally follows the Oregon-Washington border and extends 106.5 miles from the mouth of the Columbia River at the Pacific Ocean to Vancouver, Washington. The Columbia River Channel Improvements Project was completed in November 2010, which deepened the Columbia River navigation channel to accommodate the current fleet of international bulk cargo and container ships and improved the condition of the Columbia River estuary through the completion of environmental mitigation and restoration projects. The Columbia River is the nation's largest wheat export gateway and the third largest grain export corridor in the world (USACE, 2022).

The Columbia River is open to vessel traffic at all times of the year and has been a center for trade and transport in the Pacific Northwest since the 1930s. The river is typically able to accommodate larger-scale barges, although boat specifications may vary for ocean barges. This is due to the influence of barge size on the distance between the barge's underside and river bottom. The Columbia River is also known as an ideal location for recreational fishing, and anglers have full access to the river year-round (PG&E, 2022d).

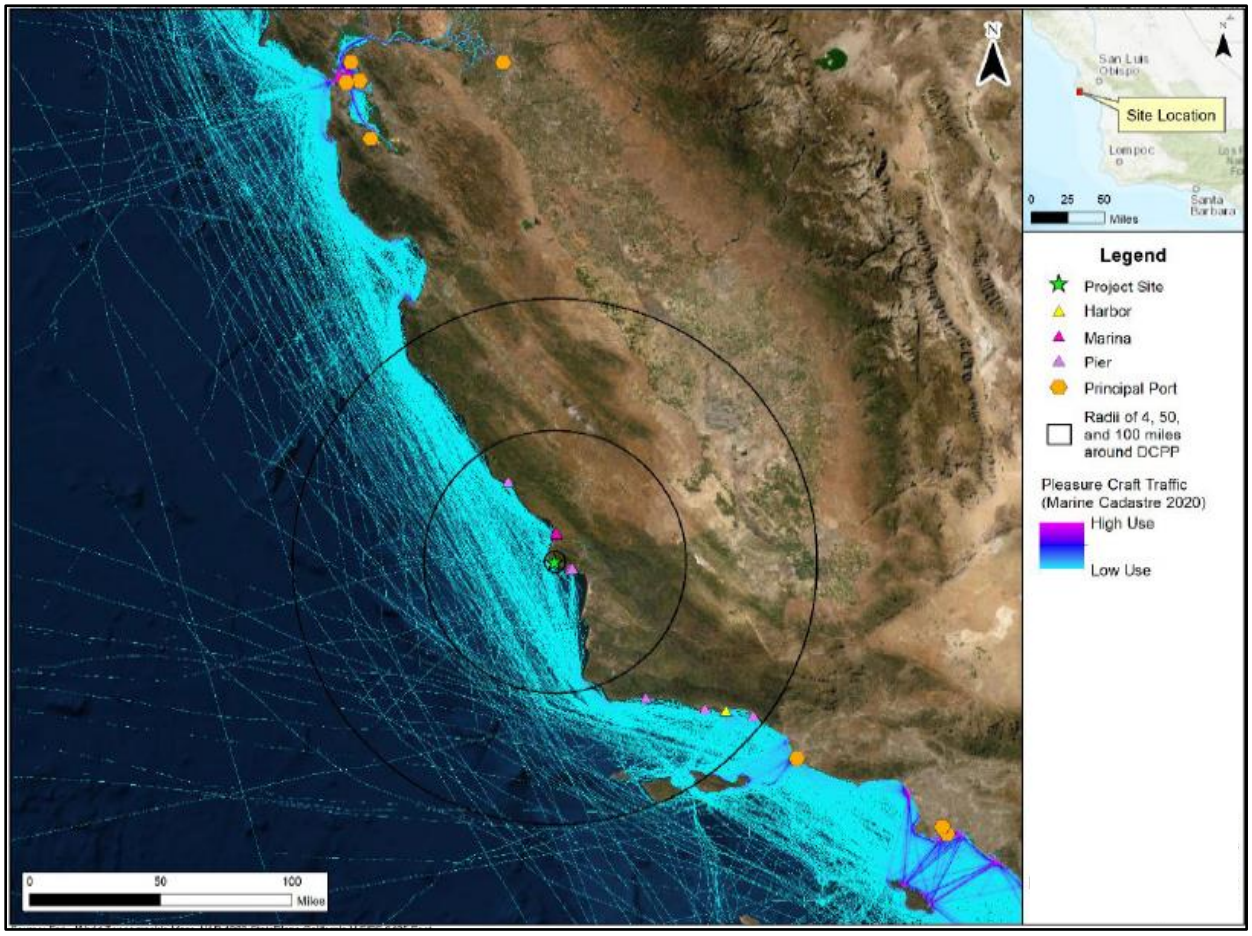
As shown in Figure 4.16-14, the Port of Portland is located approximately 65 miles southeast of the Oregon coast. This port is Oregon's largest port and ships over 11 million tons of cargo each year (Port of Portland, 2022b). The port's marine terminals are located along the Willamette River and the Columbia River. Terminal 6 , which is the only terminal located along the Columbia River and is anticipated to be used for the Proposed Project, is a 420-acre, multi-use terminal that handles containers, project cargo (large, heavy-duty, high value, or complex pieces of equipment), and breakbulk (cargo that cannot fit into a container and is not carried in bulk) and also features a direct rail service (Port of Portland, 2022a). Under the Proposed Project, recyclable material would be transported from this port by rail to a recycling facility in Salt Lake City, Utah.

Figure 4.16-12. Fishing Vessel Traffic Between the Port of Oakland and Port of Los Angeles



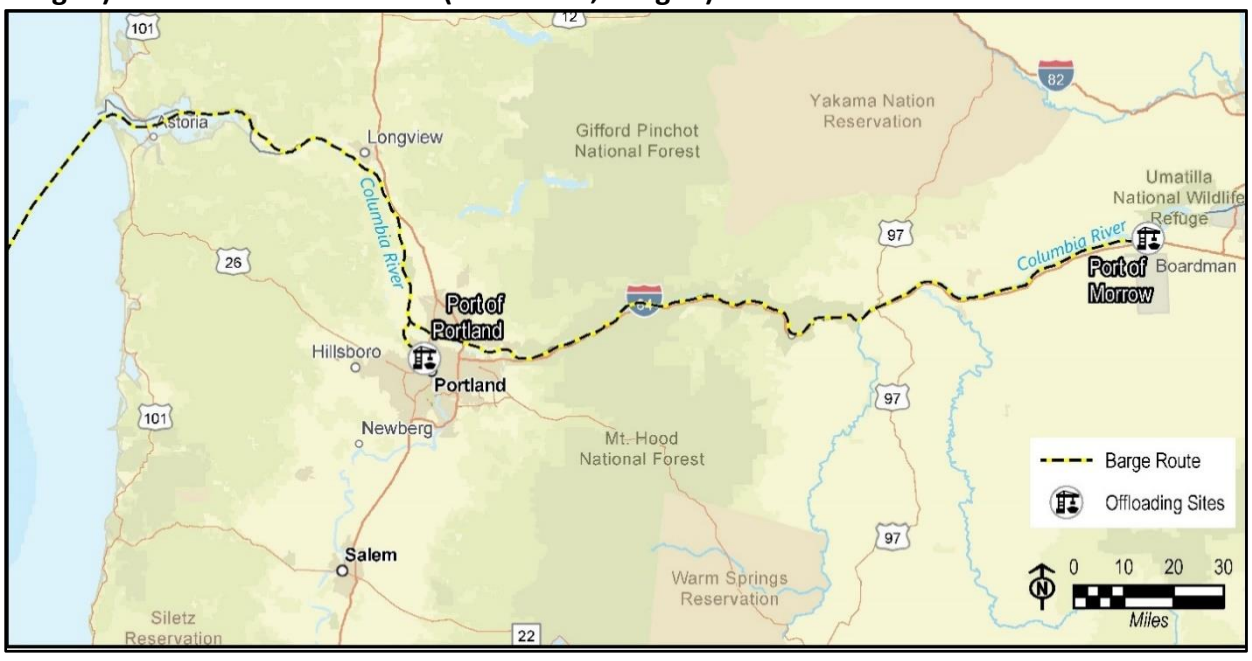
Source: PG&E, 2022d – Figure 2.2.2-1.

Figure 4.16-13. Pleasure Craft Traffic Between the Port of Oakland and Port of Los Angeles



Source: PG&E, 2022d – Figure 2.2.3-1.

Figure 4.16-14. Barge Route Along the Columbia River to the Port of Portland (Portland, Oregon) and the Port of Morrow (Boardman, Oregon)



Source: PG&E, 2021d.

As shown in Figure 4.16-14, the Port of Morrow is located along the Columbia River in Boardman, Oregon, approximately 160 miles east of the Port of Portland. Under the Proposed Project, hazardous waste, Low Activity Radioactive Waste (LARW), and Licensed Class A Waste would be transported from the Port of Morrow by rail to disposal facilities in Idaho or Utah (PG&E, 2021a). From the Port of Morrow, clean material (i.e., non-radiological waste) would be transported by truck to landfills in the Columbia Gorge area (PG&E, 2021a and 2022a). There are five landfills in the Columbia Gorge area; waste could be transported to one or multiple landfills in the area. As discussed in Section 4.14, *Public Services and Utilities*, these landfills have sufficient capacity to accommodate waste generated by the Proposed Project.

The Port of Morrow includes four industrial parks that are served by various transportation modes. The Union Pacific Railroad mainline passes through the Boardman Industrial Park and the East Beach Industrial Park (Port of Morrow, 2022). Currently, the railroad mainline does not extend to the port's marine terminals along the Columbia River. However, in 2018, the Port of Morrow was awarded a $19.4 million US Department of Transportation BUILD Grant for the Columbia River Barge Terminal Rail Access Project, which will extend rail spurs from the Union Pacific mainline to the port's marine terminals and enable rail-to-barge access for shipments along the Columbia River; construction of this project is anticipated to be completed in late 2023 (Port of Morrow, 2018).

4.16.2 Regulatory Setting

This section summarizes the state, regional, and local plans and policy documents pertinent to potential transportation impacts. Appendix C includes a summary of other federal and state laws, regulations, and policies that pertain to transportation.

Federal

Title 33 of the Code of Federal Regulations (CFR) Parts 1 through 399. Federal regulations concerning marine navigation are codified in 33 CFR Parts 1 through 399 and are implemented by the US Coast Guard and the US Army Corps of Engineers. Under 33 CFR Part 72 (Marine Information), the US Coast Guard issues Notices to Mariners, which are intended to advise mariners of new hydrographic discoveries, changes in channels and navigational aids, and information concerning the safety of navigation. Under 33 CFR Part 83.10 (Traffic Separation Schemes (TSS)), rules related to TSSs state that vessels must avoid crossing traffic lanes, or cross on a heading as nearly as practicable to right angles to the general direction of traffic flow; or if not using a TSS, avoid it by as wide a margin as is practicable. Under 33 CFR Part 160 (Ports and Waterways Safety-General), the US Coast Guard must be informed of any vessel movement, including the transport of hazardous waste. The National Vessel Movement Center was established by the US Coast Guard, in accordance with 33 CFR Part 160 as a single clearinghouse for submission and processing of notice of arrival and departure information for vessels entering US ports and facilities. A notice also provides updates to navigational charts for other vessel operators to reference to promote maritime safety and ensure that vessel traffic does not affect the navigational ability of other vessel operators.

46 CFR Parts 1 through 599. Federal regulations for marine vessel shipping are codified in 46 CFR Parts 1 through 599 and are implemented by the US Coast Guard, Maritime Administration, and

Federal Maritime Commission. Parts 145 through 155 cover dangerous cargo and certain bulk dangerous cargo, including stowage and segregation requirements and the compatibility of cargoes.

State

California Vehicle Code. Division 2, Chapter 2, Article 3 defines the powers and duties of the California Highway Patrol (CHP), which enforces vehicle operation and highway use in the State (State of California, 1959). The California Department of Transportation (Caltrans) is responsible for the design, construction, maintenance, and operation of the California State Highway System and the portion of the Interstate Highway System within State boundaries.

Division 15, Chapter 5, Article 6 defines the special permits and agreements required for authorization to operate vehicles exceeding legal size, weight or load specified elsewhere in the California Vehicle Code. Among the provisions of this Article include discretion of Caltrans to issue permits based on the vehicle and load weight if it would exceed the maximum load limit and to assess fees.

Caltrans, under its Traffic Operations division, has the discretionary authority to issue special permits for the use of California State highways for other than normal transportation purposes. Caltrans also reviews all requests from utility companies, developers, volunteers, nonprofit organizations, and others desiring to conduct various activities within the California Highway right of way. For special transportation moves including over-height/overweight (extralegal) loads, applicants must submit applications detailing the vehicle, load, weight, origin, destination, requested route, and other details. Caltrans has published a Transportation Permits Manual which defines all types of cargoes and vehicles including hazardous materials, radioactive waste, special construction equipment, and other categories that may apply to the DCPP Project. The manual includes specifications for the Applicant on considering all aspects of the trip including vehicle inspections, routing and safety requirements, compliance and penalties. See also Appendix G2 regarding the transport of radioactive materials.

The Caltrans Highway Design Manual, prepared by the Office of Geometric Design Standards (Caltrans, 2020a), establishes uniform policies and procedures to carry out the highway design functions of Caltrans. Caltrans has also prepared a Guide for the Preparation of Traffic Impact Studies (Caltrans, 2020b). Objectives for the preparation of this guide include providing consistency and uniformity in the identification of traffic impacts generated by local land use proposals.

Caltrans publishes guidance on statewide and local truck routes including current weight and length restrictions (Caltrans, 2020c).

Division 14.5 assigns oversight of transportation of radioactive materials to the CHP in consultation with the State Department of Health Services, including defining the time and routes acceptable for shipment. Further, part 33002 requires a transporter to notify CHP in advance of the intended shipment, and CHP is then responsible for coordination with other life safety officials.

California Code of Regulations, Chapter 13 Standards Applicable to Transporters of Hazardous Waste. Title 22, Division 4.5, Chapter 13 of the hazardous waste regulations applies to carriers transporting hazardous waste when that waste is subject to the manifesting requirements of

Chapter 12 (State of California, 1991). In general, transporters of hazardous waste must comply with these requirements and statutory requirements in Health and Safety Code, Division 20, Chapter 6.5, Article 6 & 6.5, as well as the specific Caltrans requirements referenced throughout the transporter regulations.

Transporters are required to comply with the regulations in the California Code of Regulations, Title 22, Division 4.5, Chapter 12 (Standards Applicable to Generators of Hazardous Waste) if they import hazardous waste into the United States (State of California, 1991). They must also follow certain California Code of Regulations, Title 22, Division 4.5, Chapter 13 (Standards Applicable to Transporters of Hazardous Waste) requirements if they mix hazardous wastes of different Caltrans shipping descriptions in a single container (66263.10(c)). In such instances, the transporter does not actually become the generator, but generator responsibilities must be assumed.

Senate Bill 743 Vehicle Miles Traveled Analysis (Public Resources Code Section 21099). SB 743 directed the Office of Planning and Research (OPR) to develop revisions to the California Environmental Quality Act (CEQA) Guidelines to establish new criteria for determining the significance of transportation impacts and define alternative metrics for traffic level of service (LOS) (OPR, 2018). On September 27, 2013, California Governor Jerry Brown signed SB 743 into law and started a process that changes transportation impact analysis as part of CEQA compliance. These changes include elimination of auto delay, LOS, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts for land use projects and plans in California. According to the legislative intent contained in SB 743, these changes to current practice were necessary to "…more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions."

In response to SB 743, the California Natural Resources Agency adopted revisions recommended by OPR to the CEQA Guidelines on December 28, 2018. CEQA Guidelines Section 15064.3 and Appendix G: Environmental Checklist Form, Section XVII, Transportation. Section 15064.3 includes new criteria for determining the significance of a project's transportation impacts. Specifically, Section 15064.3(a) states "vehicle miles traveled is the most appropriate measure of transportation impacts." With this change, lead agencies can no longer use automobile delay, as measured by LOS or similar measures of vehicular capacity or traffic congestion, to assess transportation impacts under CEQA. The following key text concerning the analysis of transportation impacts is taken directly from the 2022 CEQA Guidelines:

> *(b) Criteria for Analyzing Transportation Impacts.*
>
> > *(1) Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.*

These new regulations became fully effective as of July 1, 2020. Agencies which have not yet voluntarily adopted their own criteria and policies for analyzing VMT may follow the OPR guidelines, *Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018*. See below in Section 4.16.3 (Significance Criteria) for a discussion on the applicability of the new CEQA guidelines resulting from SB 743 to the Proposed Project.

Regional

As described in Section 1.3.3.2, *Surface Transportation Board*, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction.

Marine Transportation. Under the Proposed Project, PG&E proposes to conduct coordination with the harbormaster for Port San Luis to notify them of increases to vessel traffic as well as for staging barges at Port San Luis (PG&E, 2021b). PG&E would be required to comply with the Port San Luis Code of Ordinances (Port San Luis Harbor District, 2021), as applicable.

San Luis Obispo Council of Governments 2019 Regional Transportation Plan. San Luis Obispo County's 2019 Regional Transportation Plan addresses regional transportation needs and prioritizes projects to improve mobility and the efficiency of the transportation network and reduce GHGs. As noted above, SLOCOG is the Metropolitan Planning Organization (MPO) for San Luis Obispo County and the seven cities in the region including Arroyo Grande, Atascadero, Grover Beach, Morro Bay, Paso Robles, Pismo Beach, and San Luis Obispo. The RTP provides a vision for future growth and development in the San Luis Obispo area for the next 25 years and is the long-term blueprint for the region's transportation system. The RTP identifies and analyzes transportation needs for the metropolitan region and contains goals, policy objectives, action strategies, and investments to maintain, manage, and improve the transportation system in the San Luis Obispo region. The RTP includes several goals, objectives, and action strategies that could relate to the proposed project, including safe use of roadways the project may affect, maintenance of truck routes, and the transport of potentially hazardous and/or radioactive materials through the region.

Santa Barbara County Association of Governments Connected 2050. Connected 2050 is the long-range RTP and Sustainable Communities Strategy for the County of Santa Barbara region developed by the Santa Barbara County Association of Government (SBCAG, 2021). SBCAG is a regional planning agency comprised of Santa Barbara County and the eight incorporated cities in the county. The Connected 2050 Plan provides a vision for the region's future that balances transportation and housing needs with social, economic, and environmental goals. Connected 2050 provides recommendations for the SBCAG region to make decisions about transportation, land use, and housing. Goal Area 4 addresses roadway safety to ensure facilities provide safe accommodation for all users, and completion of emergency preparedness plans for potential natural or man-made disasters.

Local

County of San Luis Obispo, Framework for Planning (Inland). The County of San Luis Obispo's Framework for Planning (Inland) includes the Land Use and Circulation Elements of the County's General Plan (San Luis Obispo, 1980a). A portion of the DCPP site falls within the inland area designated by the Framework for Planning. The Land Use and Circulation Elements of the General

Plan describe the County policy regarding land uses, growth, and development as it relates to transportation. The Circulation Element establishes goals and policies to meet pedestrian circulation needs by providing usable and attractive sidewalks, pathways, and trails to establish maximum access and connectivity between land use designation. Goals and policies in the Circulation Element are implemented in conjunction with the Land Use Element Area and community/village plans. Policy M of the County of San Luis Obispo Framework for Planning (Inland) refers itself to the County RTP for direction on policies and programs regarding non-roadway modes rather than define policies specific to the Inland Area. All other policies from the Framework for Planning (Inland) address transportation network development elements that the Proposed Project would not directly affect. Policy M is quoted below:

> ***Policy M. OTHER TRANSPORTATION MODES.*** *In addition to streets, public transit, and airports, other transportation modes affecting land use planning include harbors and seaports, pipelines, transmission lines, rail, and transportation terminals. The area plans contain policies for the local development and use of those systems. The Regional Transportation Plan contains a specific discussion of issues, programs, and policies for those components of the county circulation system and it is incorporated by reference as though it were fully included here.*

County of San Luis Obispo Local Coastal Program Policy Document. The County of San Luis Obispo Local Coastal Program Policy Document is a portion of the San Luis Obispo County Land Use Element of the General Plan and includes policies and land use designations to comply with the California Coast Act of 1976 (San Luis Obispo, 2007). The Local Coastal Program Policy Document states that Avila Beach Drive is an important coastal access route that is heavily used by recreational users. The proposed land use improvements in the General Plan would not significantly affect traffic capacity along this roadway. Policy 5 in Chapter 5 (Commercial Fishing & Recreational Boating) states that proposed development at Port San Luis shall be within the circulation and utility capacity available to the harbor area; and that Avila Beach Drive shall not be subjected to traffic levels exceeding level of service "C," based on the average hourly weekday two-way 3:00 p.m. to 6:00 p.m. traffic counts to be conducted during the second week in May of each year. This policy is relevant to proposed improvements in the harbor, which is not part of the Proposed Project. Therefore, the Local Coastal Program Policy Document does not include any policies that are applicable to the Proposed Project.

County of San Luis Obispo Avila Community Plan. The Avila Community Plan establishes a vision for guiding land use and transportation over the next 20 years and is part of the County of San Luis Obispo Land Use and Circulation Element (San Luis Obispo, 1980b). The Community Plan establishes policies, programs, and standards to help achieve this vision. The Community Plan includes a Circulation Element that focuses on transportation and circulation in the Avila Urban Reserve Line, considering the different needs to automobiles, transit vehicles, pedestrians, and bicyclists. The Circulation Element of the Community Plan describes existing and proposed major transportation routes and public facilities. An updated Community Plan was drafted and released for public comment in 2021. Staff have been meeting with community members and with internal stakeholders to revise the Draft Avila Community Plan, incorporating some of the comments received. The Circulation Element of the Community Plan describes existing and proposed major transportation routes and public facilities and identifies evacuation routes in the event of a

hazardous occurrence. Community priorities for transportation and circulation include traffic control on Avila Beach Drive that ensures public safety, and permitting events only at non-peak traffic times. Draft Policy CIR-8 seeks to develop an emergency evacuation plan for the Avila Urban Reserve Line area with a specific item regarding provision of a public emergency access route through the decommissioned DCPP site to Montaña de Oro beginning with Phase 1B of the Project; this Policy is not formally adopted.

County of Santa Barbara Comprehensive Plan Circulation Element. The Circulation Element of the County of Santa Barbara Comprehensive Plan identifies the general location and extent of existing and proposed major roads, transit routes, terminals and public utilities and facilities in correlation with the Land Use Element, throughout the unincorporated areas of Santa Barbara County (Santa Barbara, 2014). The Circulation Element applies to all roadways and intersections within the unincorporated area of Santa Barbara County, except for roadways and intersections located within an area included in an adopted community or area plan. The Circulation Element also applies standards to projects within the unincorporated area that may create impacts to level of service thresholds within incorporated cities.

The purpose of the Circulation Element is to balance the future land use development and roadway capacity. The circulation element defines policy consistency for how projects contribute average daily trips (ADTs) to roadways based on their functional classification (number of lanes, intended use). The Circulation Element also defines intersection delay standards based on volume-to-capacity (V/C) ratios, a method which is no longer considerable under CEQA (see discussion above regarding SB 743). A Project would be inconsistent with the policy if it increased ADT or V/C on affected roads and intersections beyond the estimated future capacity.

City of Pismo Beach General Plan Circulation Element. The Circulation Element of the City of Pismo Beach General Plan provides goals, policies, and programs pertaining to the City of Pismo Beach, and identifies a comprehensive plan for transportation improvements (Pismo Beach, 2018). The goals, objectives, and policies outlined in the Circulation Element establish a citywide strategy to achieve long-term mobility and accessibility for all travel modes in Pismo Beach while also serving Pismo Beach's projected development. The Circulation Element closely correlates with the Land Use Element and is intended to enhance mode choice for all users in Pismo Beach. The Circulation Element also defines a preferred transportation system that reflects Pismo Beach's financial resources and goals to provide safe and convenient access for all travel modes while preserving the local community character.

The following policies within the Circulation Element of the City of Pismo Beach General Plan are relevant to the Proposed Project.

> **Guiding Policy 4.1 Promote safe and efficient goods movement.** Promote the safe and efficient movement of goods via truck and rail with minimum disruptions to residential areas.
>
> **Implementing Policy 4.3 Hazardous Materials.** The truck routes for hazardous materials shall be limited to US-101. The City shall request Caltrans to remove State Route 1 as a designated hazardous materials route.

City of Santa Maria General Plan Circulation Element. The Santa Maria Circulation Element evaluates the transportation needs of the city and creates a plan to accommodate these transportation needs (Santa Maria, 2011). The purpose of the Circulation Element is to guide the improvement of the circulation system in Santa Maria in correlation with the Land Use Element, preserve future road rights-of-way, and to provide for public mobility and support for the existing and anticipated population in Santa Maria. The Circulation Element serves the following needs: coordinate the transportation and circulation system with planned land uses; promote the efficient transport of goods and the safe and effective movement of people; make efficient use of existing transportation facilities; and protect environmental quality and promote wise and equitable use of economic and natural resources. The City of Santa Maria is currently in the process of updating the General Plan.

The following policies within the Santa Maria Circulation Element are relevant to the Proposed Project.

> **POLICY C.1.b Driveways and other Encroachments.** Develop access standards regarding new driveways and other encroachments to arterial and collector streets to minimize conflicts that are detrimental to safe and efficient operating conditions.
>
> **POLICY C.6.e.1 Rail Transportation (Preserve the SMVRR right-of-way).** To preserve railroad and utility rights-of-way to provide for the development of a fixed light rail transportation system to serve the community.
>
> The City of Santa Maria will continue to support the phased implementation of the light rail transportation network delineated in Figure C-3. The phased implementation may include existing freight service, an open space corridor, multi-purpose trail (bicycling/ jogging), fixed bus route, and a light rail system.

Policy Consistency

Table 4.16-1 includes a list of plans and programs relevant to transportation as well as a preliminary evaluation of the Proposed Project's consistency with each of these plans and programs.

Table 4.16-1. Consistency with Applicable Programs, Plans, Ordinances, and Policies

Plan/Policy	Consistent?	Discussion
California Vehicle Code. Chapter 2, Article 3 defines the powers and duties of the California Highway Patrol, which enforces vehicle operation and highway use in the State. Caltrans is responsible for the design, construction, maintenance, and operation of the California State Highway System and the portion of the Interstate Highway System within State boundaries. The California Vehicle Code requires any extralegal transport (oversize loads) to obtain a permit through Caltrans and notify CHP.	Consistent	Project transportation would comply with vehicle operation and highway use enforced by the California Highway Patrol and would be consistent with the California Vehicle Code.

Table 4.16-1. Consistency with Applicable Programs, Plans, Ordinances, and Policies

Plan/Policy	Consistent?	Discussion
California Code of Regulations, Ch. 13 Standards Applicable to Transporters of Hazardous Waste. Chapter 13 of the hazardous waste regulations applies to carriers transporting hazardous waste when that waste is subject to the manifesting requirements of Chapter 12. In general, transporters of hazardous waste must comply with these requirements and statutory requirements.	Consistent	The transportation of hazardous waste associated with the Project would occur by barge, truck, or rail, and would be consistent with hazardous waste regulations implemented under California Code of Regulations, Ch. 13.
SB 743. This bill took effect July 1, 2020; it changed the method of traffic analysis required under CEQA from level of service (LOS) to vehicle miles traveled (VMT).	Consistent	This EIR analyzes transportation impacts following the requirements of SB 743 and subsequent guidance. Therefore, the Project is consistent with SB 743.
Caltrans District 5 and the Counties of San Luis Obispo and Santa Barbara. The roadway network within the Project area is within the jurisdiction of Caltrans District 5, the County of San Luis Obispo, and the County of Santa Barbara. Any repairs to the roadway network that would facilitate the movement of construction vehicles would be subject to approval by the responsible public agency, and any construction work within the right-of-way of any public roadway would require an encroachment permit from the responsible agency.	Consistent	The Project would take place at multiple locations within both San Luis Obispo County and Santa Barbara County. If the construction work associated with the Project would encroach within the road right-of-way (for example, driveway improvements), PG&E would obtain an encroachment permit from the responsible agency, consistent with Caltrans District 5, San Luis Obispo, and Santa Barbara County regulations. Therefore, the Project is consistent with this requirement.
San Luis Obispo Council of Governments 2019 Regional Transportation Plan (RTP). The RTP provides a vision for future growth and development in the San Luis Obispo area through the year 2045 and is the long-term blueprint for the region's transportation system. Freight/Commodity Movement Action 5 Support mitigation of the impacts of freight rail on the efficiency of movement for passenger trains.	Consistent	The Project proposes no permanent alterations to highways, streets, and roads. Transportation by barge, truck, and rail from DCPP to off-site facilities associated with the Project would be consistent with the 2023 RTP. *Action 5*: While the Project would generate new freight rail traffic, the Project itself would not require those shipments to occur at the expense of passenger trains. These decisions are determined by the railroad owner (UPRR) and are subject to agreements with local, state, and federal entities. Therefore, the Project is consistent.
Santa Barbara County Association of Governments Connected 2050. This plan provides a vision for the region's future that balances transportation and housing needs with social, economic, and environmental goals. Policy 2.1.2 Reduce congestion, especially on highways and arterials.	Consistent	Transportation by barge, truck, and rail from DCPP to off-site facilities associated with the Project in the Santa Barbara region would be consistent with the Connected 2050 Plan. As shown in Table 4.16-2 below, the Project would decrease the number of automobiles using the roadway system, due to the reduction in

Table 4.16-1. Consistency with Applicable Programs, Plans, Ordinances, and Policies

Plan/Policy	Consistent?	Discussion
Policy 2.4.1 Freight and Goods Movement. Making efficient use of existing transportation system. Policy 2.4.5 Considering freight and goods movement in the design and planning of projects.		DCPP employee commutes. Trucking activity would use existing transportation facilities, including existing road and rail infrastructure, and the VMT generated by Project trucks is considered in this EIR.
County of San Luis Obispo Framework for Planning (Inland). The County's Framework for Planning (Inland) was amended in 2015 and includes the Land Use and Circulation Elements of the County's General Plan. Policy M. OTHER TRANSPORTATION MODES In addition to streets, public transit and airports, other transportation modes affecting land use planning include harbors and seaports, pipelines, trans-mission lines, rail and transport-ation terminals. The area plans contain policies for the local development and use of those systems. The Regional Transportation Plan con-tains a specific discussion of issues, programs and policies for those components of the county circulation system. The Framework for Planning (Inland) Resource Management System establishes Levels of Severity for monitored public resources. The Level of Severity for roadways is based on LOS "D". The Framework states that the County of San Luis Obispo Public Works Department should evaluate roadway capacity improve-ments if this LOS level is met.	Consistent	Transportation by barge, truck, and rail from DCPP to off-site facilities associated with the Project in San Luis Obispo County would be consistent with Policy M of the County's Framework for Planning (Inland), as the Project would not preclude the County of San Luis Obispo from enacting the Circulation Element. The Project would reduce demand on the County's roadway system by reducing the number of employees commuting to the DCPP site. As shown in Table 4.16-2 below, this would decrease the number of cars on County roadways and reduce roadway congestion.
County of San Luis Obispo Avila Beach Community Plan. This Community Plan establishes a vision for guiding land use and transportation in Avila Beach over the next 20 years.	Consistent	Transportation by barge, truck, and rail from DCPP to off-site facilities would be consistent with the Avila Community Plan. The Project would reduce the number of automobiles using roadways in the Avila Beach Community Plan area by reducing the number of employees commuting to the DCPP site. This would increase the efficiency of the existing transportation system and would be consistent with the circulation system resource management deficiencies identified in the plan.
County of Santa Barbara Comprehensive Plan Circulation Element. The Comprehensive Plan Circulation Element was adopted in 2014 and provides goals and policies for the circulation system.	Consistent	Transportation by truck from DCPP to off-site facilities associated with the Project in Santa Barbara County would be consistent with this element. Although the Circulation Element still identifies

Table 4.16-1. Consistency with Applicable Programs, Plans, Ordinances, and Policies

Plan/Policy	Consistent?	Discussion
		delay-based thresholds for roadways and intersections that are no longer permissible as impacts under CEQA, the Project is consistent with these standards because truck trips, which would occur within unincorporated Santa Barbara County, are limited and periodic, and typically would occur outside of the peak hours.
City of Pismo Beach General Plan Circulation Element. The Circulation Element was adopted in 2014 and provides goals and policies for the circulation system. Guiding Policy 1.3, Citywide Level of Service (LOS). Achieve and maintain a multimodal LOS "C" or better… Guiding Policy 4.1, Promote safe and efficient goods movement. Promote the safe and efficient movement of goods via truck and rail with minimum disruptions to residential areas. Implementing Policy 4.3, Hazardous Materials. The truck routes for hazardous materials shall be limited to US-101. The City shall request Caltrans to remove State Route 1 as a designated hazardous materials route.	Consistent	Although the Circulation Element still identifies delay-based thresholds for roadways and intersections that are no longer permissible as impacts under CEQA, the Project is consistent with these standards because truck trips, which would occur within the city, are limited and periodic, and largely would occur outside of the peak hours. Transportation by truck from DCPP to off-site facilities associated with the Project in Pismo Beach would be consistent with Guiding Policy 4.1. The Project involves a small number of daily truck trips that would have a minimal impact on local roadways and would avoid peak hours and pick-up and drop-off timeframes at Judkins Middle School. The trucks would primarily use highways and arterial streets without residential development. The Project does not interfere with the City's ability to implement this policy. Transportation of hazardous materials by truck associated with the Project would be consistent with Implementing Policy 4.3 and uses on US-101.
City of Santa Maria General Plan Circulation Element. The Circulation Element was amended in 2011 and provides goals and policies for the circulation system. POLICY C.1.b, Driveways and other Encroachments. Develop access standards regarding new drive-ways and other encroachments to arterial and collector streets so as to minimize conflicts that are detrimental to safe and efficient operating conditions.	Consistent	Any Project activities that would encroach within the road right-of-way would obtain an encroachment permit to minimize conflicts and would be consistent with POLICY C.1.b. The Project proposes the use of a SMVR facility for transportation to off-site disposal facilities and would not conflict with preservation of the SMVR right-of-way; therefore the Project would be consistent with POLICY C.6.e.1.

Table 4.16-1. Consistency with Applicable Programs, Plans, Ordinances, and Policies

Plan/Policy	Consistent? Discussion
POLICY C.6.e.1, Rail Transportation (Preserve the SMVR right-of-way). To preserve railroad and utility rights-of-way to provide for the development of a fixed light rail transportation system to serve the community. The phased implementation may include existing freight service, an open space corridor, multi-purpose trail (bicycling/ jogging), fixed bus route, and a light rail system.	

Source: OPR, 2018; Pismo Beach, 2018; San Luis Obispo, 1980a; San Luis Obispo, 1980b; San Luis Obispo, 2021; Santa Barbara, 2014; Santa Maria, 2011; SBCAG, 2021; SLOCOG, 2022; State of California, 1959; State of California, 1991.

4.16.3 Significance Criteria

Thresholds of significance to determine whether implementation of the Proposed Project would result in significant transportation and circulation impacts are based on the State CEQA Guidelines Appendix G checklist and measures established by the County of San Luis Obispo. Significant impacts to transportation would occur if the Proposed Project would:

- Impede achievement of existing circulation policy goals and objectives.
- Cause a net increase in VMT compared to the existing use.
- Add traffic to a roadway that has design features (e.g., narrow width, sharp curves, inadequate load capacity) that are incompatible with the type of Project vehicles (i.e., oversized trucks, heavy equipment) to be used.
- Alter site access and connections to local roads that would create or worsen a hazard, such as poor visibility of and for entering traffic, insufficient curb radii for turning vehicles, and conflicts with pedestrians and bicycles.
- Alter roadway conditions, such as the closure of both lanes of traffic of a roadway that serves as the primary ingress and egress for an area, resulting in inadequate emergency access.
- Reduce the existing level of safety for marine vessels or increase the potential for marine vessel accidents.

VMT Methodology and Discussion

Senate Bill 743 states that VMT reduction is needed to achieve State climate goals as travel per capita and passenger vehicle emissions have continued to grow despite improvements in vehicle fuel efficiency and other strategies to reduce emissions (California, 2013; OPR, 2018). VMT is a metric for understanding the total utilization of the road network. One vehicle mile traveled is a single vehicle traveling on a roadway for one mile, regardless of how many people are in the vehicle. Every vehicle traveling on the road generates VMT. However, for the purposes of CEQA, only the VMT generated by on-road passenger automobiles, which includes automobiles and light trucks, are considered for potential impacts (OPR, 2018). The more that travelers are able

to make the same trips by walking, bicycling, using transit, or carpooling, the less VMT increases even as new development occurs.

For the Proposed Project, VMT is being measured in terms of the typical passenger vehicle activity to and from the site by employees. The VMT generated from truck trips related to the decommissioning activity is additionally provided for informational purposes and is not considered for the purposes of CEQA, consistent with OPR guidance. The criteria detailed above states that the project will have a significant impact if there is a net increase in VMT compared to the existing use. In this case, the total VMT related to the Diablo Canyon Power Plant (and the related off-site materials handling facilities in either Pismo Beach or the Santa Maria Valley Railroad sites) is measured as the total mileage of all employee trips from their home to work location (and back again). The total miles of daily truck trips between the DCPP site and the off-site materials handling facilities and/or the "direct trucks" hauling materials directly to disposal sites is provided for information only, and includes all miles traveled for those purposes, including the miles traveled beyond California into neighboring states.

The significance criterion for the Proposed Project is based on total VMT because unlike typical development projects which seek to build new, replace, or intensify a land use (for example, building a new shopping center or replacing a surface parking lot with an office tower), the Proposed Project would remove the existing use over a relatively long period of time. As the site is decommissioned, employees and trucks would continue to travel to and from the site, but far fewer workers are required for the decommissioning activity compared with existing conditions. Furthermore, the remote location of the site (the Plant itself is approximately 7 miles into the project site along a winding roadway) limits the opportunity to improve efficiency for employees to reach the site. For example, although employees could (and do currently) carpool to the site, few if any could use public transit to reach work because of the distance from the nearest transit (as described in Section 4.16.1); the same is true for walking and bicycling.

4.16.4 Environmental Impact Analysis and Mitigation

Impact TRA-1: Conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b) related to vehicle miles traveled (VMT); result in a net increase in VMT compared with the existing use (No Impact).

The Proposed Project would reduce and eventually remove most or all of the existing operations at the DCPP site, with the exception of the revised Owner-Controlled Area (see Figure 2-20) and Intake Cove/Marina. The total workforce related to DCPP decommissioning, even accounting for additional staffing needs of up to 24 staff at off-site locations (SMVR-SB site), is substantially lower in Phase 1 and even more so in Phase 2 compared to existing conditions.

Table 4.16-2 details all the VMT factors of the existing conditions and the Proposed Project. The total VMT includes regular daily activities, which is primarily employees driving to and from the DCPP site from their homes. Under existing conditions, most employees of the DCPP drive or carpool to the site daily. Under the Proposed Project, a reduced workforce would continue to drive or carpool to the DCPP site, while a small workforce of 10 staff would be added to the SMVR-SB site. The table shows these facilities and the additional employees under the Proposed Project Phases 1 and 2 required to support the materials transfer from truck to rail. Additionally,

Table 4.16-2 details the VMT generated by trucks during Phases 1 and 2, which are provided as a reference and were not considered for the purposes of CEQA.

Following Table 4.16-2 is an explanation of the assumptions for the existing employee VMT, followed by Phase 1 activities (employee trips) and Phase 2 activities (employee trips).

Table 4.16-2. Project Vehicle Miles Traveled (VMT) Generation

VMT Generator	Existing Conditions	Phase 1	Phase 2
DCPP			
Number of DCPP Employees	1,157	864	268
DCPP Employment VMT per Working Day (miles)	56,080	41,612	12,880
Santa Maria Valley Railroad (SMVR-SB) Facility			
Number of Additional Employees	-	10	-
SMVR Employment VMT per Working Day (miles)	-	485	-
Total Passenger Vehicle VMT			
Total VMT per Working Day (miles)	56,080	42,097	12,880
Change from Existing Conditions	-	*-25%*	*-77%*
DCPP Decommissioning Truck Activity (information only; not considered as a CEQA impact)			
Total Number of Decommissioning Truck Trips	-	391	1,882
Truck VMT per Working Day (miles)	-	403	307
Maximum Number of One-Way Daily Truck Trips	-	5	
Santa Maria Valley Railroad (SMVR-SB) Truck Activity			
Number of Decommissioning Truck Trips[1]	-	37	-
Truck VMT per Working Day (miles)[1]	-	2	-
Maximum Number of Monthly Trips[1]	-	15	-
Pismo Beach Railyard Truck Activity (Contingency)			
Total number of PBR Contingency Site Truck Trips[2]	-	6,072	-
Truck VMT per Working Day (miles)[2]	-	134	-
Maximum Number of One-Way Daily Trips	-	5	-
Total VMT Inclusive of All Employee and Truck Activity (information only)			
Total VMT per Working Day (miles)[3]	56,080	43,310	13,187
Change from Existing Conditions	-	*-23%*	*-76%*

Source: PG&E, 2021e.

[1] A maximum of 99 truck trips to SMVR-SB is assumed based on Table 2-7. Of these 99 trips, 62 trips (20+42) may be direct trucked to their final destinations out of California instead of to SMVR-SB and then by rail. A more conservative VMT analysis is provided by assuming these 62 trips out of the 99 total are entirely trucked to the final destination, which would be greater than the VMT if all 99 trips went to SMVR-SB and then by rail.

[2] The Applicant plans to use the PBR as a contingency site only for the transport of non-radioactive and non-hazardous decommissioning waste. Truck and employee trips to the PBR would only occur if the site is utilized.

[3] Total VMT includes the use of the PBR contingency site. The total VMT would be less if the PBR site is not used, as PBR materials would primarily be shifted from ocean barge to rail via truck. These short trucking trips from the DCPP to the PBR would generate additional VMT when compared to the ocean barge transportation option.

Existing DCPP Operations

Under existing conditions, the main generator of total daily VMT for the Proposed Project is employee trips between home and the DCPP site. PG&E provided employee residential ZIP code data to estimate the existing VMT of employees commuting to the DCPP site (PG&E, 2021e). DCPP operates 24 hours a day year-round, and currently employs 1,157 workers (as of the 2021 CDP Application), but generally employs up to approximately 1,400 workers under typical operating conditions. A substantial number of employees using vanpool services to commute to work based on information provided by PG&E. To account for these vanpool services and carpooling, an estimate of 1.4 employees per vehicle was used to calculate the VMT generated by existing employees at the DCPP site. Employee commute trip lengths were calculated from the ZIP code data provided PG&E, with the centroid (spatial center) of each ZIP code used to estimate the average employee commutes. Commute distances were calculated using geographic information system (GIS) software and are based on existing roadways in the region. The ZIP code centroids were adjusted to account for the geography of the Central Coast region, as the center of some ZIP codes in the area are located within mountain ranges. Table 4.16-2 shows the estimated VMT generated by employees from the DCPP site's existing operations.

Figure 4.16-15 shows the distribution of current DCPP employees home locations by ZIP code. The map shows how, partly due to the geography of the Central Coast region and often indirect or winding highways, some employees may live relatively far from the DCPP. During the Proposed Project, the decommissioning workforce is anticipated to have a similar distribution of home location.

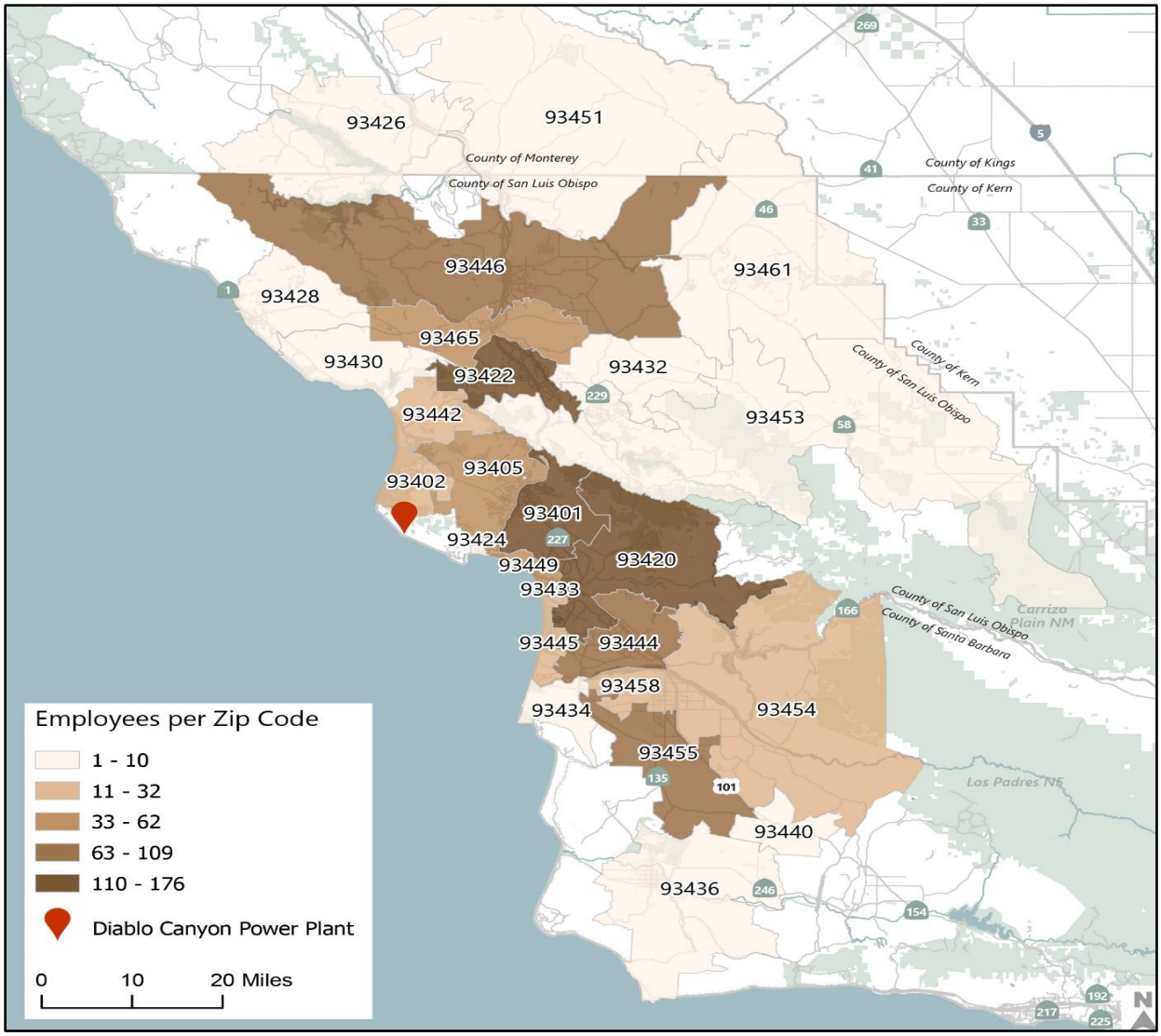
Phase 1

DCPP Project Site

During Phase 1 of the Proposed Project, the on-site employees would decrease from current conditions of approximately 1,157 employees to approximately 870. Table 4.16-2 displays the reduced number of employees at the DCPP site during Phase 1 of the Proposed Project and the estimated VMT they would generate. The residential location of Phase 1 employees is assumed to have a similar home ZIP code distribution as the residential location of existing employees.

During Phase 1, PG&E intends to move materials via truck and barge to several waste facilities in the western United States. Some of these materials would be moved directly by truck to the designated waste facilities via the Interstate and State highway systems, while other materials would be trucked locally to the PBR and/or SMVR-SB site to be transported to the designated waste sites via rail.

Figure 4.16-15. DCPP Employee Existing Conditions Distribution



Source: PG&E, 2021e.

Construction trips are typically not evaluated for VMT generation for the purposes of CEQA due to their temporary and essential nature as part of a development project. However, because of the duration and intensity of the decommissioning activities, the VMT generated by trucks moving material from the DCPP site to waste facilities has been provided for informational purposes. PG&E provided the locations of these waste facilities and the number of trucks required to move the materials. The number of the truck trips to each waste facility was multiplied with the round-trip distance to those facilities from the main DCPP Access Gate on Avila Beach Drive. Additionally, the approximately 7-mile distance from this gate to the DCPP site was added to these calculations. Finally, the mileage was divided by the 1,456 working days in each project phase, accounting for a four-day working week over seven years, to provide a daily VMT estimate.

As shown in Table 4.16-2, the VMT produced by staff commuting to the DCPP site during Phase 1, is less than the VMT produced by the existing operations of the DCPP. For this reason, Phase 1 of the Proposed Project at the DCPP site would result in a reduction of VMT. No impact would occur.

Railyards

Pismo Beach Railyard. The Proposed Project may use the PBR facilities as a contingency site in place of transport of approximately 122,000 tons of non-radiological, non-hazardous waste via ocean barge from the DCPP site. As a contingency, these materials may be trucked to the PBR to be transported via railroad to the waste facilities, replacing the barge trips assumed in the base Proposed Project. No additional employees would be required at the PBR facility for its operations.

Table 4.16-2 displays these potential truck trips, and the VMT they would generate if these materials were transported through the PBR for reference purposes. Although daily VMT and truck trips would be higher in Phase 1 with the contingency use of PBR rather than the barge trips, the total VMT remains below existing conditions and therefore Phase 1 of the Proposed Project at the PBR site would result in no impact.

SMVR-SB. The Proposed Project would transport materials through the SMVR facility. Approximately 10 temporary employees would be needed at the site for operational and security purposes, and these employees would generate a small amount of VMT.

Table 4.16-2 displays the additional VMT generated by these railyard employees. The residential locations of these employees have been estimated using the existing DCPP site employee ZIP code data provided by PG&E. The SMVR-SB site is approximately 30 miles south of the DCPP site.

Table 4.16-2 displays the total estimated VMT generated by Phase 1 of the Proposed Project. As shown in Table 4.16-2, the total daily VMT generation estimate for passenger vehicles of 41,612, is lower than the existing operations of the DCPP site. For this reason, Phase 1 of the Proposed Project would result in a reduction of VMT. No impact would occur.

Phase 2

DCPP Project Site

Phase 2 of the Proposed Project would result in a further reduction in staffing levels at the DCPP site to approximately 270. Table 4.16-2 displays the reduced number of employees at the DCPP site during Phase 2 and the estimated VMT they would generate. The residential location of Phase 2 employees is assumed to have a similar ZIP code distribution as the residential location of the DCPP site's existing employees.

During Phase 2 of the Proposed Project, materials would continue to be transported from the DCPP site to the designated waste facilities by direct truck via the Interstate and State highway systems. Although Phase 2 increases the number of truck trips when compared to Phase 1, the VMT generated by those trucks is less than Phase 2 due to shorter journeys. These Phase 2 trucks include 1,760 trucks needed to move topsoil from locations in San Luis Obispo County to the DCPP site. The VMT generated by Phase 2 trucks is displayed in Table 4.16-2 for reference purposes. Unlike Phase 1, Phase 2 would not use the SMVR-SB or PBR facilities to transport materials. As displayed in Table 4.16-2, the VMT produced by staff commuting to the DCPP site during Phase 2 of the Proposed Project, is estimated to be 12,880, which is less than the VMT produced by the

existing operations of the DCPP site. For this reason, Phase 2 of the Proposed Project at the DCPP site would result in a reduction of VMT. No impact would occur.

Railyards

Unlike in Phase 1 of the Proposed Project, Phase 2 would not use any railyards (i.e., no materials would be moved by rail) and no additional staffing at any of the railyards is required. As such, there is no estimated VMT generated by the railyard facilities during Phase 2 of the Proposed Project. No impact would occur.

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, the resulting activity on site associate with the Proposed Project (i.e., GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings) would remain less than existing conditions and would therefore generate fewer daily VMT than existing conditions. No impact would occur.

Future Actions. Future use of the Marina by a third party may involve up to 200 people per day, including up to five employees. It is reasonable to assume based on the region that the trip lengths and patterns of these daily visitors would be similar on average to the DCPP employee trip distribution assumptions. Reuse of the Marina, based on PG&E's assumption of 200 users per day, is expected to generate fewer daily VMT than existing conditions. The addition of up to 200 daily visitors, assuming every single visitor drove alone (which is unlikely for a recreational activity such as open-ocean boating), would still be less than half the number of daily vehicle trips in Phase 2, which remains substantially less than existing conditions. No impact would occur.

Mitigation Measures for Impact TRA-1. No mitigation measures are required.

Impact TRA-2: Add traffic to a roadway that has design features that are incompatible with the type of Project vehicles to be used (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

PG&E intends to transport decommissioning debris and waste off site via a combination of barge, truck, and truck-to-rail. All trucks (including those used to move waste to rail facilities) would use existing roadways between the DCPP site and US-101. Trucks would leave the DCPP site using the internal Diablo Canyon Road/Diablo Ocean Drive, which is a paved, 7-mile two lane road that will be maintained to support decommissioning truck traffic. Trucks would then use Avila Beach Drive, which is an arterial road, to access US-101. As discussed in Section 2.3.19.2, *Waste Transportation*, haul trucks would be limited to off-peak traffic hours, which minimizes potential hazards. The level of truck activity departing the DCPP site correlates to a few trucks per day over the course of the entire Project. Avila Beach is a relatively isolated community with only Avila Beach Drive providing public access to the community and DCPP, and the community experiences significant seasonal traffic demand. Avila Beach Drive is in some places only approximately 34 feet wide, which is sufficient only for one travel lane in each direction plus a sidewalk on one side, and there are significant lengths where there is no separated sidewalk where vehicles may be parked with a significant amount of foot traffic and bicyclists during the busy season. Project-

related truck trips, even at only a few trucks per day, could create a regular incompatibility with the coastal road that must safely accommodate pedestrians, bicyclists, tourist traffic and trolley circulators, parked cars and RVs, local residents, and emergency responders.

Mitigation Measure (MM) TRA-1 requires preparation and implementation of a Transportation Management Plan (TMP) that would define the allowable hours and days for truck transportation (oversize loads or any other trips that would require temporary road closures are addressed under Impact TRA-3 and MM TRA-2). With the implementation of MM TRA-1 and MM EM-2 (*Project Plan Updating, Tracking, and Reporting*), specifically for the TMP required under MM TRA-1), the Proposed Project would not result in inadequate emergency access, and the impact would be reduced to a less than significant level (Class II).

Railyards

Pismo Beach Railyard. The PBR site is owned by PG&E and is currently used as an office and equipment storage location. Proposed Project improvements to this site would be limited to the refurbishment and replacement of existing rail track. Vehicles would enter the PBR site through the existing Bello Street driveway. As discussed in Section 2.3.4.2, *Pismo Beach Railyard Modifications*, haul trucks would be limited to off-peak traffic hours (i.e., no shipments to PBR 7:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m.) and would avoid morning drop-off and afternoon pickup periods for Judkins Middle School, which minimizes potential hazards. The level of haul truck activity in the event the PBR site is used (contingency if barging is not the primary method of transport from the DCPP site) would be up to five round trips daily, which does not represent a substantial increase in hazards to a site that already handles truck activity. To ensure truck trips are appropriately restricted, MM TRA-1 would require the preparation and implementation of a plan specifying hours for truck traffic outside of peak hours. Therefore, the impact would be reduced to a less-than-significant level (Class II).

SMVR-SB. As shown in Figure 2-13, the Proposed Project includes improving the existing driveway to the SMVR-SB site off Betteravia Road, approximately 600 feet west of Stinton Road and refurbishing the existing track. The upgraded driveway would accommodate trucks turning to and from Betteravia Road onto the railyard site. These improvements would follow applicable roadway and site design standards. Additionally, as discussed in Section 2.3.4.1, *Santa Maria Valley Railyard Modifications*, haul trucks would be limited to off-peak traffic hours (i.e., no shipments to SMVR-SB 6:00 a.m. and 8:00 a.m. or between 4:00 p.m. and 5:30 p.m.). To ensure truck trips are appropriately restricted, MM TRA-1 would require the preparation and implementation of a plan specifying hours for truck traffic outside of peak hours. Therefore, the impact would be reduced to a less-than-significant level (Class II).

Phase 2

Phase 2 consists of activities to restore portions of the DCPP site to a natural condition and the continuation of Discharge Structure removal and restoration activities. This includes soil remediation to remove radiological and non-radiological contamination and the completion of Final Status Surveys to verify all radiological materials have been removed. The Proposed Project also includes the addition of a blufftop road segment that would connect Shore Cliff Road and

North Ranch Road/Pecho Valley Road to provide more direct emergency vehicle access to and from the north, outside of the revised Owner-Controlled Area. This emergency vehicle access route would continue to provide an alternative route out of the DCPP site if the main Diablo Canyon Road/Diablo Ocean Drive were to be out of service. This new roadway segment would be designed to applicable standards and therefore would not be unsafe. See also the emergency evacuation discussion in Section 4.17, *Wildfire*. Phase 2 activities would also include grading and landscaping to restore excavated areas and the installation of post-construction stormwater controls. Phase 2 activities that would involve trucking would remain subject to MM TRA-1, which requires preparation and implementation of a plan specifying hours for truck traffic outside of peak. Therefore, the impact would be reduced to a less-than-significant level (Class II).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, the resulting activity on site associate with the Proposed Project (i.e., GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings) would remain less intense than existing conditions and is anticipated to be limited to typical employee, visitor, and delivery traffic and vehicle types. No impact would occur.

Future Actions. The Marina facilities would be accessed by Diablo Canyon Road, which can accommodate trailers carrying boats to and from the Marina, with up to the approximately 200 daily users assumed. As such, operation of the Marina would not add traffic that is incompatible with the public roads to be used, and there would be no impact.

Mitigation Measures for Impact TRA-2.

EM-2 **Project Plan, Updating, Tracking, and Reporting.** See Section 3. For Impact TRA-2, MM EM-2 will be implemented to track the compliance activities and reporting of the TMP required under MM TRA-1.

TRA-1 **Truck Transportation Outside of Peak Hours.** Prior to the issuance of any decommissioning permit, the Applicant or its designee shall prepare and submit a Transportation Management Plan (TMP) to address truck transportation outside of peak hours to be reviewed and approved by the jurisdictions responsible for the relevant public roadways, such as the County of San Luis Obispo and Caltrans. The TMP shall require all decommissioning-related truck transportation to avoid the peak days and hours as specified below. Specialty Heavy-Haul Transport Vehicles are a component of the TMP and are further addressed in MM TRA-2.

Avila Beach Drive

- Between the hours of 7:00 a.m. – 8:30 a.m. and 3:00 p.m. – 6:00 p.m.
- Saturdays and Sundays
- State and federal holidays
- Fridays after 12:00 p.m. (noon) preceding a Monday state or federal holiday
- Any weekdays after 12:00 p.m. (noon) preceding a state or federal holiday

Pismo Beach Railyard, if used

- 7:00 a.m. – 9:00 a.m.
- 3:00 p.m. – 6:00 p.m.

- Morning and afternoon student drop-off and pick-up periods at Judkins Middle School (morning drop-off approximately 8:30-9:30 a.m. Monday and 7:30-8:30 a.m. Tuesday-Friday; afternoon pickup approximately 2:00-3:00 p.m. Monday-Friday and 11:00 a.m. – 12:00 p.m. on Minimum Days), which must be confirmed with school administration prior to the start of each semester including days of early release or special schedules.

Santa Maria Valley Railyard – Betteravia Industrial Park (SMVR-SB)

- 7:00 a.m. – 9:00 a.m.
- 3:00 p.m. – 6:00 p.m.

Impact TRA-3: Alter roadway conditions, such as the closure of both lanes of traffic of a roadway that serves as the primary ingress and egress for an area, in a way that would result in inadequate emergency access (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

Proposed Project activities at the DCPP site would take place on the existing power plant site. No permanent alteration to existing public roadways would occur as a result of the Proposed Project.

There would be regular trucking activity entering and exiting the site between US-101 and the main DCPP Access Gate on Avila Beach Drive; however, the overall number of vehicle trips to and from the site is expected to be lower than existing conditions as described in Impact TRA-1. Generally trucking activities would be limited to off-peak periods per MM TRA-1 and distributed across a period of years, unlike a typical building construction project that would have a relatively short but highly intensive period of trucking activity. Queues of trucks or employees on Avila Beach Drive to enter the DCPP site are not anticipated during any period of the Proposed Project. The main DCPP Access Gate would continue its normal operations for employee screening, and truck screenings are expected to take approximately 30 seconds or less to complete per truck (PG&E, 2022c – DR#8, Transportation 2). Therefore, under normal circumstances during the Proposed Project, there would not be roadway changes or traffic conditions that would obstruct emergency access.

However, there would be up to 79 specialty heavy-haul transport vehicle round trips involving oversize loads of approximately 20 feet wide. The use of these vehicles would require PG&E to obtain a permit from Caltrans for oversize/overweight vehicles and the consideration of the use of these vehicles in the Transportation Management Plan (TMP) prepared for the Proposed Project. The width of these vehicles would require some streets, such as Avila Beach Drive which has a 22-foot-wide travel way (one lane in each direction), to be closed in both directions up to 158 times (one for each inbound and outbound trip, comprising 79 round trips). Avila Beach Drive is the only roadway west of San Juan Street providing access to not only DCPP but also Port San Luis, beachfront, the Avila Beach Resort and other land uses. Therefore, a full roadway closure could briefly delay or restrict emergency response access or public egress in case of an emergency, particularly while the oversize load vehicles cross the bridge over San Luis Creek which may not have sufficient width for emergency vehicles to pass while an oversize truck is on it

(approximately 24-feet-wide with no shoulders). Furthermore, many vehicles are typically parked along the shoulder west of this bridge, which could also impede the ability for emergency vehicles to pass an oversize truck.

MMs TRA-2 through TRA-5 require the preparation and implementation of a TMP in consultation with jurisdictions responsible for the relevant public rights-of-way, as well as providing a decommissioning liaison, advanced notification and quarterly updates of decommissioning activities to property owners, residences, and businesses along local transportation routes. The TMP would fully define emergency access, would provide direction in the event emergency vehicle need to access the area, would include the allowable days and times for roadway closures and the necessary traffic control measures need to implement those closures, and appropriately prepare emergency response units to be mobilized on either side of the closure as needed. With the implementation of MMs TRA-2 through TRA-5 as well as MM EM-2 (*Project Plan, Updating, Tracking, and Reporting*, specifically for the TMP required under MM TRA-2), the Proposed Project would not result in inadequate emergency access, and the impact would be reduced to a less-than-significant level (Class II). See also the emergency evacuation discussion in Section 4.17, *Wildfire*.

Railyards

Pismo Beach Railyard. Material would be hauled from the DCPP site to the PBR site by truck (if this contingency site is used); no specialty heavy-haul transport vehicles would go to the PBR site. The materials hauling trucks would travel with normal truck traffic and move aside for emergency vehicles. Any construction activities associated with the Project and transportation of materials hauling would be intermittent (with some periods of activity but not continuous for the entire period of decommissioning) and would not result in road closures, impacts to site access, or traffic conditions that would result in delay. As noted in Section 2.3.4.2, *Pismo Beach Railyard Modifications*, a maximum of five truck trips per day are anticipated at the PBR site, and these truck trips would not enter or leave the PBR site during peak traffic periods on weekdays (7:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m.) or during the morning drop-off and afternoon pickup periods for students at Judkins Middle School.

Trucks would enter the PBR via the existing driveway on Bello Street and would use a security gate that is opened via a security key card. Trucks would be processed in approximately 30 seconds or less and there is no expected queuing of trucks (PG&E, 2022c – DR#8, Transportation 4). With this level of trucking activity and no additional employee traffic, the activities would not block emergency response vehicles that need to pass. Thus, the Proposed Project would not result in inadequate emergency access, and the impact would be less than significant (Class III). See also the emergency evacuation discussion in Section 4.17, *Wildfire*, under Impact WF-1.

SMVR-SB. Material would be hauled from the DCPP site to SMVR-SB by truck. The materials hauling trucks would travel with normal truck traffic and move aside for emergency vehicles. Any construction activities associated with the Proposed Project and transportation of materials hauling would be intermittent and would not result in road closures, impacts to site access, or traffic conditions that would result in delay. A maximum of 99 truck trips would occur between 2024-2029 (see Table 2-7). There would be an average of one to six shipments

per month, with the possibility that a maximum of 15 shipments could occur in any month. Trucks trips would not occur between 6:00 a.m. and 8:00 a.m. or between 4:00 p.m. and 5:30 p.m. on weekdays.

Oversize materials hauling trucks (up to 79 trips described above) would include a California Highway Patrol escort during their journey within California and the trucks would move aside for emergency vehicles, following the same discussion outlined above. Although the planned route between US-101 and the SMVR-SB site is not the only public roadway access for the area, road closures could still have an effect on emergency response. MMs TRA-2 through TRA-5 would still apply as described above. Thus, the Proposed Project would not result in inadequate emergency response, and the impact would be reduced to less than significant (Class II).

Phase 2

Phase 2 consists of activities that would restore portions of the DCPP site to a more natural condition and the continuation of Discharge Structure removal and restoration activities. This includes soil remediation to remove radiological and non-radiological contamination and the completion of Final Status Surveys to verify all radiological materials have been removed. Phase 2 activities would also include grading and landscaping to restore excavated areas and the installation of post-construction stormwater controls. Phase 2 includes a total of 122 truck trips over a seven-year timeframe (see Table 2-7). Any construction and trucking activities associated with Phase 2 would be intermittent; would occur outside peak periods per MM TRA-1; and would not result in road closures, impacts to site access, or traffic conditions that would result in inadequate emergency access. No oversize loads requiring use of specialty heavy-haul transport vehicles are anticipated during this phase, although these would be covered by the TMP per MM TRA-2.

The blufftop road segment, which would be constructed during Phase 2, would provide emergency vehicle access from Avila Drive and from Montaña de Oro State Park. North Ranch Road/ Pecho Valley Road would continue to operate as a private road and would not be available for public use. In the event Diablo Canyon Road/Diablo Ocean Drive were to be closed, the proposed blufftop road segment could facilitate evacuation of the DCPP site without needing to travel the more indirect route around the revised Owner-Controlled Area. As described in Section 2.4.7, *Blufftop Road Segment*, the blufftop road connection requires a crossing of Diablo Creek to connect with North Ranch Road/ Pecho Valley Road. The existing culvert/bridge structure has been blocked for security purposes for decades. Its structural condition for handling traffic including fire apparatus and other emergency vehicles is unknown and could further deteriorate over the time between the beginning of decommissioning and Phase 2. Therefore, the culverted road segment over the Diablo Creek may not provide adequate emergency access. MM TRA-6 (*Diablo Creek Crossing Structure Inspection and Repair*) is recommended, which requires PG&E to conduct a full engineering evaluation of the structure prior to the Phase 2 construction of the blufftop road segment and correct any deficiencies. As such, impacts would be reduced to a less-than-significant level (Class II).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, the resulting activity on site comprising the GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings would remain less than existing conditions. The course of regular operations does not include use of any oversize loads, hauling, or construction activities that would cause roadway conditions that result in inadequate emergency access. No impact would occur.

Future Actions. Due to the limited number of anticipated visitors to the Marina (assumed to not exceed 200 visitors per day), Diablo Canyon Road/Diablo Ocean Drive would provide adequate emergency access. Per Title 14 of the California Code of Regulations, Division 1.5, Chapter 7 and 2019 California Fire Code D107, a maximum of 250 people in a High Fire Hazard Severity Zone and 150 people in a Very High Fire Hazard Severity Zone is permitted before a formal secondary emergency access route is required. Operations at the Marina, which is located within a High Fire Hazard Severity Zone, would comply with these regulations based on PG&E limiting the third party to having no more than 200 people (see Section 4.17, *Wildfire*, Impact WF-1). Impacts are less than significant (Class III).

Mitigation Measures for Impact TRA-3.

EM-2 **Project Plan, Updating, Tracking, and Reporting.** See Section 3. For Impact TRA-3, MM EM-2 will be implemented to track the compliance activities and reporting of the TMP required under MM TRA-2.

TRA-1 **Truck Transportation Outside of Peak Hours**

TRA-2 **Specialty Heavy-Haul Transport Vehicle Transportation Management Plan.** Prior to the closure in both directions of a roadway that serves as the primary ingress and egress for an area or community, the Applicant or its designee shall prepare and submit a detailed Transportation Management Plan (TMP) to be submitted to the County of San Luis Obispo County Department of Planning and Building and the Department of Public Works for review and agency distribution, and shall be approved by the jurisdictions responsible for the relevant public roadways, such as the Planning and Building, and Santa Barbara County Public Works Departments, Port San Luis Harbor District, and Caltrans. This TMP shall include, but is not limited to:

- Waste classification and receiving facilities.
- Identification of haul truck trip routes, including the number of truck trips, the location of staging areas, and the specific destination of trucks carrying oversize/overweight loads.
- A monitoring program for street surface conditions to minimize damage to the roadway network, including inspection of the roadway prior to its closure, precautionary measures to protect roadways during the movement of materials, and provisions for the Applicant to repair all damage caused during the movement of materials by all oversize/overweight (extralegal) trucks.

- Traffic control plan. Avila Beach Drive has the following lane and road closure restrictions unless otherwise agreed upon by Public Works, where lane closures are not permitted:
  - Between the hours of 7:00 a.m. – 8:30 a.m. and 3:00 p.m. – 6:00 p.m.
  - Weekends (Saturday and Sunday)
  - State and Federal holidays
  - Fridays after 12:00 pm (noon) preceding Monday State and Federal holiday
  - Any weekdays after 12:00 pm (noon) preceding a State and Federal holiday
- Scheduling plan. A schedule for all specialty heavy-haul transport vehicle trips be provided at least one month in advance of the use of the transport vehicle to the San Luis Obispo and Santa Barbara County Public Works Departments and the Port San Luis Harbor District.
- Separate Single Trip Transportation Permit(s) will be required for oversized loads requiring lane closure and/or full road closure. An "extra legal load" analysis will be required for Avila Beach Drive bridge (RD-2070-BR1) to ensure the bridge is capable of supporting the oversized load.
- Full road closure may be allowed with prior approval from Public Works with following requirements:
  - Closure may occur between the hours of 10:00 p.m. – 5:00 a.m.
  - Provide a minimum two (2) week advance notification to Port San Luis Harbor District, public, and emergency services, which may include electronic message signs, press releases, etc.
  - California Highway Patrol escort.
  - Coordination with Public Works / Cal Fire / Office of Emergency Services for emergency ingress/egress of emergency vehicles and/or emergency evacuation for community of Avila Beach. This may include no parking signage along shoulders, maintaining a minimum 10-foot clear emergency travel lane adjacent to shoulder, etc.
- Traffic control plans that identify traffic control measures, such as flag persons, warning signs, barricades, cones, lights, and detour routes.
- Provisions for alternative pedestrian and bicyclist routes.
- Identify necessary parking restrictions and the location of relevant signage, including no parking signage along Avila Beach Drive shoulders, maintaining a minimum 10-foot clear emergency travel lane adjacent to shoulder during road closures. Signs must be placed 48 hours in advance of all road closures and removed immediately after the vehicle exits the road.
- Public notification in advance of the road closure, such as written notification to local residents in English and other relevant languages, online resources, and electronic message signs. The notification shall include a description of the work, dates and times the road will be closed, and relevant contact information.

TRA-3 **Decommissioning Liaison.** Thirty days (30 days) prior to the start of any decommissioning activities, and thereafter for the duration of the Project, the Applicant or its designee shall appoint a Decommissioning Liaison. Contact information for this liaison (or liaisons) such as a name, email, and toll-free general number shall be included on all project-related updates, mailings, and notices, as well as placed on the dedicated Project website. The identified liaison(s) shall:

- Act as a point of contact and interface between local residents and the DCPP decommissioning crews
- Be available both in person and by phone, as necessary, for at least 1 month prior to the start of decommissioning and for 6 months following the completion of the Project
- Respond to all Project-related questions and concerns within 3 business days when contact information is provided

In addition, the Applicant or its designee shall provide a quarterly update to the County Department of Planning and Building that summarizes all complaints, comments, and concerns communicated to the liaison(s) for the duration of decommissioning activities, and 2 times (once every 3 months) for the 6-month period following the completion of Project activities. The compliance documentation shall include the name and contact information of the person contacting the liaison(s), the date of contact, and what actions were taken by the liaison(s) to rectify or address the complaints, comments, or concerns expressed.

TRA-4 **Advance Notification of Decommissioning.** Thirty days (30 days) prior to the start of initial decommissioning activities, the Applicant or its designee shall give advanced notice of the start of decommissioning activities to property owners, residents, and businesses located along Avila Beach Drive and along the railyard transport routes (i.e., Price Canyon Road, Bello Street, and Betteravia Road), including but not limited to the residential and commercial uses identified in EIR Table 4.12-1. Notification shall be completed by placing ads in local newspapers, posting of notices at community facilities (e.g., libraries, community centers, recreation facilities), and direct mailings. The notification shall include the location, types, and expected duration of each decommissioning activity, inclusive of trucking activities and any scheduled road closures anticipated for the first 3 months following publication of the notification. The notification shall also include the toll-free general phone number and contact information for the Decommissioning Liaison(s) (see MM TRA-3), as well as an internet website address where additional Project information can be found.

TRA-5 **Quarterly Decommissioning Updates.** Each quarter following distribution of the advance notification of decommissioning, the Applicant or its designee shall provide property owners, residents, and businesses along transport routes, including but not limited to the residential and commercial uses identified in EIR Table 4.12-1, with updates to all current and scheduled decommissioning activities on the Project's website and by US Postal Service mail. Property owners, residents, and businesses along Avila Beach Drive and within the central Avila Beach community shall be provided updates every quarter for the duration of decommissioning activities. Property

owners, residents, and businesses along the railyard transport routes shall be provided updates every quarter for the duration of Phase 1 activities. The updates shall include the location, types, and expected duration of each decommissioning activity scheduled for the 3-month period following each update's publication date. The updates shall also include a toll-free number and the name and phone number of the Decommissioning Liaison(s) to respond to all Project-related questions and concerns.

TRA-6 **Diablo Creek Crossing Structure Inspection and Repair.** Prior to Phase 2 design of the blufftop road segment, the Applicant shall demonstrate to the County Department of Planning and Building that a qualified professional engineer has been retained to evaluate the condition of the embankment crossing and its appurtenant facilities which cross Diablo Creek north of the Plant. The engineer shall determine the suitability for the embankment structure to serve as an emergency vehicle access route and identify any repairs or upgrades required to serve in this capacity (see also MM HWQ-1, *Prepare and Implement Drainage Plans*, regarding confirmation of drainage conveyance stability and performance). The engineer shall document the condition and any repairs recommended in a report to the County Department of Planning and Building and Department of Public Works within 30 days of the completed evaluation. If any improvements are necessary to provide safe emergency access, the Applicant shall plan for and construct the improvements prior to completion of the blufftop road. The remedial improvements must be completed to the satisfaction of the County Department of Public Works within drainage plans (see MM HWQ-1).

Impact TRA-4: Reduce the existing level of safety for marine vessels because of offshore vessel use (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site and Offshore Barge Route

Waste Export

During Period 1B of the Proposed Project (2030-2033), various waste types would be exported by barge from the DCPP Intake Cove to the Port of Portland and the Port of Morrow in Portland and Boardman, Oregon, respectively, as shown in Figure 4.16-7. Ocean transport by barge reduces truck trips through the local community. Barge transport also enables the transport of large amounts of demolition waste in a short period of time (PG&E, 2021a).

The six types of waste that would be exported from the Project site include:

- Recyclable Material
- Hazardous Waste (Class B/C)
- Low Activity Radioactive Waste (LARW)
- Licensed Class A Waste
- Clean Material (non-radioactive)
- Other regulated waste

Of the six waste types, three are radioactive: LARW, Class B/C, and Licensed Class A Waste. Each of the six waste types would be packaged in separate sealed containers, and thus multiple waste types may be transported on one barge (PG&E, 2022d).

The amount of waste by type that would be transported by barge is listed in Table 4.16-3. Recyclable material would be offloaded in the Port of Portland and would be transported by rail to a recycling facility in Salt Lake City, Utah. From the Port of Morrow, waste would be transported by rail to disposal facilities in Idaho (hazardous waste and LARW) or Utah (Licensed Class A Waste). Clean material (i.e., non-radiological waste) would be transported by truck from the Port of Morrow to landfills in the Columbia Gorge area, also located in Boardman, Oregon (PG&E, 2021a). The Columbia Gorge landfills would accept non-detect (i.e., below detectable limits) general debris and were chosen because of their proximity (less than 40 miles) to the barge offload location at the Port of Morrow (PG&E, 2022a).

Waste transported by barge would be loaded into sealed 20-foot intermodal containers in compliance with 46 CFR Parts 145 through 155 and placed onto a pair of 72-foot-wide by 260-foot-long barges (PG&E, 2021c).

Table 4.16-3. Amount of Waste Transported by Barge Per Type

Waste Classification	Tons	Destination
Recyclable Material	105,144	By barge to the Port of Portland (Portland, Oregon) and then by rail to a major recycling facility in Salt Lake City, Utah
Hazardous/Regulated Waste	19,594	By barge to the Port of Morrow (Boardman, Oregon), and then by rail to US Ecology Idaho
Low Activity Radioactive Waste (LARW)	256,920	By barge to the Port of Morrow (Boardman, Oregon), and then by rail to US Ecology Idaho
Licensed Class A Waste	103,118	By barge to the Port of Morrow (Boardman, Oregon), and then by rail to Energy Solutions in Clive, Utah
Clean Material	12,223	By barge to the Port of Morrow (Boardman, Oregon), and then by truck to the Columbia Gorge Landfill (in Boardman, less than 40 miles from the port) [1]
Total	**496,999**	

Source: PG&E, 2021a, 2021d, and 2022a (see Project Description Table 2-8).

[1] There are five landfills in the Columbia Gorge area; waste could be transported to one or multiple landfills in the area.

The loading of waste containers from the Intake Structure into an ocean transport barge would take approximately 4 days for each barge (Ramboll, 2022). Two empty barges would be brought to an offshore mooring in Avila Bay/Port San Luis and would only be transported to the DCPP Intake Cove when sufficient waste containers are filled and ready for loading. One barge would be moored directly to the face of the Intake Structure by a tug and secured to the bumpering system for loading of materials using a crane installed on top of the Intake Structure (PG&E, 2021a). Once the first barge is full, it would be moved over to the anchoring location in the southwest corner of the DCPP Intake Cove and secured through three mooring lines. At this point, the second barge would be brought from Avila Bay/Port San Luis, moored directly to the Intake Structure, and loaded by crane with the remaining waste containers. Once filled, the two barges

would be tied together, and the tug would transport them to Oregon (Ramboll, 2022). The barges would be tied one behind the other (single file, like a train) to allow them to maneuver safely out of the DCPP Intake Cove.

The tugs used would vary by use but are assumed to fall into the following three categories:

- **Ocean going tugs** with the horsepower to move two loaded barges through normal ocean conditions at the most efficient and economical pace.
- **River tugs** with the maneuverability to transport two loaded barges up the Columbia River. These tugs require greater maneuverability for river conditions, are "push-style" tugs rather than ocean-going tugs, with lower horsepower and specifically sized to accommodate the Columbia River locks.
- **Spotting tugs** would be used to bring empty and full barges in and out of the Intake Cove. These tugs are smaller, highly maneuverable, and better suited for handling the confined space of the DCPP Intake Cove.

To transport waste, the Proposed Project would require a total of 55 barges during Period 1B (2030-2033), as shown in Table 2-7. This equates to 28 round trips where each tug boat pulls two barges (last tug trip would only pull one barge or a total of 56 one-way trips) over the 4-year period when rounding the number of trips to the nearest whole number.

The barge routes to the Port of Portland (Portland, Oregon) and the Port of Morrow (Boardman, Oregon) are approximately 1,020 and 1,180 miles long, respectively, and would travel 50 nautical miles from the coastline in international waters (see Figure 4.16-7). Tugs that pull barges travel about 14 knots, or roughly 16 miles per hour, which equates to approximately 64 and 74 hours, respectively, or around 3 days for a direct one-way trip. Larger tugs are recommended to travel slower, at 10 knots or roughly 11.5 miles per hour, which equates to a direct one-way trip taking approximately 89 and 103 hours, respectively, or approximately 4 days (PG&E, 2022d).

Cofferdam Gravel

Within a 1- to 2-year timeframe during Period 1A of the Proposed Project (2024-2029), up to 15 barge round trips would be required to transport gravel by barge from the Port of Long Beach to fill the Discharge Structure cofferdam (with one tug boat pulling one barge for a total of 15 barges)The barge route would be approximately 321 miles long, one-way, and would extend 50 miles from the coastline in international waters (see Figure 4.16-8). Tugs that pull barges travel about 14 knots, or roughly 16 miles per hour, which equates to approximately 20 hours. Larger tugs are recommended to travel slower, at 10 knots or roughly 11.5 miles per hour, which equates to a direct one-way trip taking around 28 hours (PG&E, 2022d).

Discharge Structure Void Fill

To fill the void left in the bluff following removal of the Discharge Structure, three barge round trips (with one tug boat pulling one barge for a total of 3 barges) would be required to transport quarry rock of various sizes from the Connolly-Pacific Company (Co.) Quarry on Santa Catalina Island (see Table 2-5). . These barge trips would be completed within a 1-year timeframe during Period 1B of the Proposed Project (2030-2033). The barge route would be approximately 325

miles long, one-way, and would extend 50 miles from the coastline into international waters (see Figure 4.16-8). Tugs that pull barges travel about 14 knots, or roughly 16 miles per hour, which equates to approximately 20 hours. Larger tugs are recommended to travel slower, at 10 knots or roughly 11.5 miles per hour, which equates to a direct one-way trip taking around 28 hours (PG&E, 2022d).

Potential Impacts on Marine Vessel Safety

Potential Impacts to Near Ports. Project-related marine traffic may be limited to non-rainy seasons (e.g., summertime), which tends to be the ideal time for recreational boaters to recreate by the sea. While private boats are not allowed within the 2,000-yard security zone established by the US Coast Guard and US Department of Transportation (see Figure 4.16-9), recreational fishing vessels, pleasure crafts, and sailing activity originating from Port San Luis Harbor and Morro Bay Harbor sometimes occur within 4 nautical miles of the DCPP. In addition, barges used for the Proposed Project would be temporarily staged at Port San Luis Harbor (PG&E, 2021b). As described above, at least two empty barges would be stored at an offshore mooring in Avila Bay/Port San Luis for approximately one to two weeks to facilitate waste loading via a crane on the Intake Structure. The need for berthing and cargo space could result in longer wait times for berths or anchoring locations, congestion, and reduced safety for commercial and recreational port users at local ports, including Port San Luis Harbor, the Port of Portland, and the Port of Morrow. Recreational activity, particularly for fishing, may increase in the Columbia River during salmon runs; however, there is already consistent vessel traffic traversing through the river, and fisherman are likely aware of and accustomed to this type of traffic (PG&E, 2022d).

To reduce potential impacts, MM TRA-7 (*Coordination with Harbormasters*) would be implemented requiring PG&E to coordinate with the harbormaster for Port San Luis to notify them of increases to vessel traffic and barge staging activities. In addition, coordination with the Port of Portland and Port of Morrow would be required to inform them of the Project's vessel traffic activity. Once the final scheduling is complete, PG&E would develop a communications and traffic plan to coordinate with local port authorities on the timing of Project-related tug-barge departure and arrival (PG&E, 2022d). This would allow local port authorities to take any necessary steps to ensure that Project-related vessel traffic would not be greater than the ports' berthing and staging capacity. In addition, recreational fishers and boaters would be informed of potential interference with their recreational activities due to construction-related vessels in the Project area; therefore, these local operators could avoid construction areas or temporarily relocate fishing efforts.

While commercial and recreational vessel operators possess advanced communication and navigation capabilities, their need to adjust course due to potential delays caused by Project-related marine traffic would result in an inconvenience for these operators. Smaller commercial and recreational vessels can more easily change direction to avoid vessel collisions. In addition, the type, size, and material or waste loaded on the barge can influence what measures are in place to ensure maritime and environmental safety. Tugs and 250-foot barges can generally handle most types of weather but may need to be moved out of the DCPP Intake Cove during storms and large swells, potentially restricting the Project's offshore activities to non-rainy seasons (e.g., summer) or other times of calmer weather. With implementation of MM TRA-8 (*Marine Surveyor Assessment*), a marine surveyor would be contracted prior to tugging to provide

a detailed assessment of safe loading practices and optimal conditions for entering or leaving a dock at the DCPP Intake Cove, Port San Luis, the Port of Portland, and the Port of Morrow. Departures and arrivals of tugs would be coordinated with weather forecasts and scheduled within the appropriate weather window, decided upon by the marine surveyor, tugboat captain, and PG&E.

Potential Offshore Impacts. Barges for the Proposed Project would transit approximately 50 nautical miles from the coastline, in international waters (PG&E, 2021b), from California to the disposal sites in Oregon. In addition, barges to transport gravel from the Port of Long Beach and rock from Santa Catalina Island would also transit 50 nautical miles from the coastline (PG&E, 2022d). Therefore, barge transport under the Proposed Project would not interfere with shipping lanes off the California coast, which are generally 4 to 20 nautical miles offshore. Additionally, barges for the Proposed Project would not traverse through the Monterey Bay National Marine Sanctuary boundaries and would not interfere with the slower ocean tank barges that are approximately 15 to 25 nautical miles from shore. However, barges for the Proposed Project would be within the same area as offshore oil tankers carrying crude oil from Alaska (members of the Western States Petroleum Association, who have agreed to remain a minimum of 50 nautical miles from shore).

As described in Section 2.3.19.2, *Waste Transportation*, barge transport activities are required to comply with existing marine vessel safety regulations. As required by 33 CFR Part 160 (Ports and Waterways Safety), the US Coast Guard would be notified regarding any vessel movement connected with the Project's activities, including the transport of hazardous waste. A Notice to Mariners would be prepared which provides updates to navigational charts for other vessel operators to reference to ensure maritime safety so that vessel traffic imposed by the Proposed Project would not affect the navigational ability of other vessel operators. Also, in compliance with 33 CFR Part 83.10 (Traffic Separation Schemes), barges associated with the Proposed Project would be required to avoid crossing traffic lanes, or cross on a heading as nearly as practicable to right angles to the general direction of traffic flow; or if not using a TSS, avoid it by as wide a margin as is practicable. Through compliance with these regulations, potential impacts related to marine vessel safety would be substantially minimized.

Phase I Marine Transportation Summary

As stated previously, during Period 1A (2024-2029), up to 15 barge round trips from the Port of Long Beach would be required to transport gravel to fill the Discharge Structure cofferdam; and during Period 1B (2030-2033), three barge round trips from Santa Catalina Island would be required to transport rock to fill in the Discharge Structure area following removal. In addition, 28 barge round trips would be required to export waste during Period 1B (2030-2033 from the DCPP site to Portland and Boardman, Oregon. During the export of waste, two empty barges would also be staged at an offshore mooring in Avila Bay/Port San Luis and transported to the DCPP Intake Cove when sufficient waste containers are filled and ready for loading. The worst-case scenario for Project-related vessel traffic is an increase of 46 barge round trips over a span of 3 years, which is an average of 27 round trips annually, assuming both the cofferdam gravel and Discharge Structure fill are transported in one year.

During decommissioning activities, the barge routes to Portland and Boardman, Oregon, and from the Port of Long Beach and Santa Catalina Island, would be 50 nautical miles from the coastline, which would minimize interference with other marine vessels. Barge operations are also required to comply with existing marine vessel safety regulations, including coordination with the US Coast Guard and avoiding or minimizing the crossing of traffic lanes. In addition,). With implementation of MMs TRA-7 and TRA-8, which include coordinating with the harbor-masters at local ports and contracting with a marine surveyor to prepare safety assessments, barge transport associated with the Proposed Project would not reduce the existing level of safety for marine vessels or increase the potential for marine vessel accidents. Therefore, impacts would be less than significant (Class II).

Railyards

None of the activities at the railyards would require barge transport; therefore, Proposed Project activities associated with the railyards would not result in any impacts related to marine vessel safety.

Phase 2

A portion of the barge trips for the export of waste to Portland and Boardman, Oregon, and the import of rock from Santa Catalina Island for filling the Discharge Structure void, during Period 1B (2030-2033) may extend into Phase 2 (2032-2039). In addition, during the export of waste, two empty barges would also be staged at an offshore mooring in Avila Bay/Port San Luis and transported to the DCPP Intake Cove when sufficient waste containers are filled and ready for loading.

As discussed for Phase 1, the Proposed Project could increase marine vessel congestion, specifically during the non-rainy seasons when recreational boating is most popular. During decommissioning activities, the barge routes to Portland and Boardman, Oregon, and from Santa Catalina Island, would be 50 nautical miles from the coastline, which would minimize interference with other marine vessels. Barge operations are also required to comply with existing marine vessel safety regulations, including coordination with the US Coast Guard and avoiding or minimizing the crossing of traffic lanes. In addition, as stated previously, with implementation of MMs TRA-7 and TRA-8, which include coordinating with the harbormasters at local ports and contracting with a marine surveyor to prepare safety assessments, barge transport associated with the Proposed Project would be less than significant (Class II).

Post-Decommissioning Operations

New Facility Operations. The operations at the GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings would not affect marine vessel traffic; therefore, Proposed Project activities associated with these facility operations would not result in any impacts related to marine vessel safety.

Future Actions. PG&E proposes to retain the Breakwaters and Intake Structure as part of the Proposed Project. After decommissioning activities are complete and the Part 50 license s are terminated, a third party could improve the DCPP Intake Cove area and utilize the Marina. PG&E can authorize activities within the 2,000-yard security exclusion zone in coordination with the US

Coast Guard and US Department of Transportation (see Figure 4.16-9) and work with a third party to allow use of the Marina. While it is possible this zone could be reduced when the risk profile for DCPP goes down (i.e., by end of 2029 when all SNF is anticipated to be transferred to the ISFSI), any changes to the security exclusion zone (reduction or elimination) must be completed through federal government action (US Coast Guard and US Department of Transportation).

Improvements to the DCPP Intake Cove area could include new parking areas, bathrooms, and a boat hoist and provide new coastal access to with up to 200 persons per day visiting the Marina. Each of these improvements would be subject to separate land use and building permits. Use of the Marina by a third party for the deployment of boats, launching of watercrafts, and arrival of boats each day would increase marine vessel traffic compared to existing operations, which are generally limited to as needed delivery of oversized equipment to the DCPP, and would be used to transport waste from the Project site during decommissioning. In addition, the existing security exclusion zone currently does not allow private boats to enter the DCPP Intake Cove. Although marine vessel traffic could increase after a third party is approved to make DCPP Intake Cove improvements after decommissioning is complete, operations at the DCPP Intake Cove would be required to comply with applicable marine vessel safety regulations, including the Harbors and Navigation Code and Federal Inland Navigation Rules.

These regulations include various requirements for boat operations. A sailboat over 8 feet long and a boat/vessel with a motor must be registered with the Department of Motor Vehicles to legally operate in California waterways. In addition, boat operators are required to be 16 years of age or older and in possession of a California Boater Card (exceptions apply to sailboats, which have no age restrictions, and if a person 12 to 15 years of age is supervised by a person at least 18 years of age). Furthermore, life jackets are required at all times under California law for every child under age 13, except when they are wearing a harness on a sailboat, enclosed in a cabin, or on a vessel during an emergency rescue. A US Coast Guard-approved life jacket is required for anyone using a personal watercraft (i.e., jet ski) and anyone being towed behind a vessel. A whistle or other sound producing device is required on powered vessels, as well as an adequate muffler to meet state noise level requirements, a US Coast Guard-approved fire extinguisher, and the current vessel registration. Lastly, boaters would be required to comply with maximum speed limits and directions of travel, including additional speed limit reductions during times when visibility is low.

The future use of the DCPP Intake Cove would be conducted in compliance with existing marine vessel safety regulations, which would minimize impacts on marine vessel safety. Therefore, operations at the DCPP Intake Cove during post-decommissioning operations would be less than significant (Class III).

Mitigation Measures for Impact TRA-4.

TRA-7 **Coordination with Harbormasters.** The Applicant or its designee shall coordinate with the harbormaster for Port San Luis to notify them of increases to vessel traffic and barge staging activities. In addition, coordination with the Port of Portland and Port of Morrow is required to inform them of the Project's vessel traffic activity. Once the final Project scheduling is complete, a Communications and Vessel Traffic Plan shall be developed to coordinate with local port authorities on the timing of Project-related

tug-barge departure and arrival. Prior to the start of barge-related activities, the Communications and Vessel Traffic Plan shall be submitted to the County Department of Planning and Building, local harbormasters, and US Coast Guard for review and approval.

TRA-8 **Marine Surveyor Assessment.** The Applicant or its designee shall contract a marine surveyor prior to barge-related activities to provide a detailed assessment of safe loading practices and optimal conditions for entering or leaving the DCPP Intake Cove, Port San Luis, the Port of Portland, and the Port of Morrow. Departures and arrivals of tugs shall be coordinated with weather forecasts and scheduled within the appropriate weather window, decided upon by the marine surveyor, tugboat captain, and Applicant or its designee. Documentation that a marine surveyor has been contracted shall be submitted to the County Department of Planning and Building for review and approval prior to the start of barge-related activities.

4.16.5 Cumulative Impact Analysis

Geographic Extent Context

The geographic extent for ground transportation impacts are roadways, including local streets and highways; pedestrian facilities, including sidewalks and pedestrian trails; and bicycle facilities that would directly serve, or would be affected by, the decommissioning activities of the Proposed Project. Phase 1 of the Proposed Project would reduce the land use intensity of the DCPP site; therefore, employee commutes on surrounding roadways would not contribute to cumulative impacts. For ground transportation, the focus of the cumulative analysis is on impacts related to truck traffic. As listed in Table 3-1, the Orano System ISFSI Modifications (#1), which would occur during Phase 1, would cause additional truck trips hauling construction materials and equipment to and from the DCPP site. In addition, Table 3-1 indicates there are three transportation infrastructure projects located on roadways that would be used by Proposed Project trucks. Therefore, cumulative projects that are considered for cumulative ground transportation impacts include:

Diablo Canyon Power Plant

- Orano System ISFISI Modifications (#1)
- Avila Beach Drive at Highway 101 Interchange (#3)

Pismo Beach Railyard

- Signal at Bello and Price Canyon Road (#7)

SMVR-SB – Betteravia Industrial Park (County of Santa Barbara)

- Highway 101 – Betteravia Road Interchange (#17)

The geographic extent for cumulative impacts on marine vessel safety is the marine vessel study area, which extends approximately 50 nautical miles offshore from the coastline of California and Oregon between Port San Luis Harbor in the south to the mouth of the Columbia River in the north; and includes a 215-mile portion of the Columbia River extending east from the Pacific Ocean to the Port of Morrow in Boardman, Oregon. As listed in Table 3-1, the offshore projects

that would be completed at the same time as the Proposed Project and are considered for potential cumulative impacts related to marine transportation include:

- Vandenberg Offshore Wind Energy Projects (#18)
- Rincon Onshore and Offshore Facilities (#20)
- Chumash Heritage Marine Sanctuary Project (#21)
- Morro Bay Wind Energy Area (#22)
- Humboldt Wind Energy Area (#23)
- PacWave South Project (#24)

Two offshore projects, the South Ellwood Project (#19) and Port San Luis Breakwater Repair (#25), would be completed prior to the beginning of the Proposed Project's marine transportation needs (projected to begin in 2030) and would not result in long-term operational impacts that could overlap with the Proposed Project.

Cumulative Impact Analysis

Phase 1

Ground Transportation

Phase 1 of the Proposed Project would reduce the land use intensity of the DCPP site when compared to existing conditions and would result in less vehicle travel in the area due to the reduced number of employees commuting to the DCPP site from around the region on a daily basis. Therefore, the Proposed Project does not contribute to any cumulative impacts.

During Phase 1 of the Proposed Project there are three transportation infrastructure projects that are located on roadways that would be used by Proposed Project trucks. The Avila Beach Drive at Highway 101 Interchange (#3) includes construction of a roundabout on Avila Beach Drive at the intersection of Shell Beach Road and the US-101 ramps and includes traffic calming features. Trucks leaving the DCPP facilities would use these ramps to access US-101. The Proposed Project would not conflict with this proposed roundabout if it is designed to accommodate truck traffic. However, if truck activity during Phase 1 coincides with the construction of the roundabout, trucks may need to use an alternate route, such as San Luis Bay Drive, to reach US-101.

The Signal at Bello and Price Canyon Road (#7) includes a traffic signal at the intersection of Bello Street and Price Canyon Road in the City of Pismo Beach. Trucks accessing the PBR facilities would use this intersection. The Proposed Project would not conflict with this proposed traffic signal.

As part of the Highway 101 – Betteravia Road Interchange (#17), the US-101 ramps at Betteravia Road in the County of Santa Barbara are planned to be improved in FY 2031/32. Trucks traveling from the SMVR-SB facility would use this ramp to return to the DCPP. However, this construction activity would occur after Proposed Project Phase 1 truck activity in the area has been completed in 2029. If Proposed Project trucking activities and construction of the Betteravia ramps project were to coincide, the Proposed Project trucks could instead detour to the interchange at Stowell Road or further south to Santa Maria Way. Therefore, the Proposed Project would not conflict with this ramp improvement project.

Additionally, the Orano System ISFSI Modifications (#1), which would occur during Phase 1, would cause an additional 384 truck trips hauling construction materials and equipment to and from the DCPP site (Stantec, 2022). Although this is an increase in truck trips beyond the Proposed Project, the duration of this activity is less than a year during Phase 1. The additional truck activity associated with Phase 1 of the Proposed Project and the ISFSI modifications on a daily basis would not be enough to increase total VMT above the existing conditions threshold, and therefore would not create a cumulative impact related to Impact TRA-1. The increase of truck activity would remain subject to the TMP and related mitigations described under Impacts TRA-7 and TRA-8; although the volume of truck traffic would be increased, the truck activity would be a temporary condition and follow the same limited hours of operation outside of the peak travel periods and following the same truck routes along Avila Beach Drive directly to US-101 as the Proposed Project. The truck activity is not anticipated to alter roadway conditions in a way that would result in inadequate emergency access related to Impact TRA-3.

Marine Transportation

As shown in Table 3-1, the six proposed offshore projects considered for cumulative impacts related to marine transportation include five energy projects, which include plugging and abandoning wells and facilities (Rincon Onshore and Offshore Facilities, #20), designating an offshore wind energy area or constructing offshore wind facilities (Vandenberg Offshore Wind Energy Projects, #18; Morro Bay Wind Energy Area, #22; and Humboldt Wind Energy Area, #23), and constructing an ocean wave energy project (PacWave South Project, #24). The remaining offshore project is the Chumash Heritage Marine Sanctuary Project (#21), which includes designating a portion of the California Coast as a marine sanctuary. These projects would affect marine vessel traffic at the same time as the Proposed Project's marine transportation impacts, and therefore, are included in the cumulative analysis presented below for marine transportation.

The Chumash Heritage Marine Sanctuary Project (#21), designating a new marine sanctuary, would pose restrictions on marine traffic in the marine sanctuary area, which would be expected to have overall beneficial impacts on marine vessel safety. This project would not contribute to adverse cumulative impacts on marine vessel safety in combination with the Proposed Project. The remaining five projects would be constructed or in operation at the same time as Phase 1 and Phase 2 of the Proposed Project; therefore, these five projects (the Vandenberg Offshore Wind Energy Projects, #18; Rincon Onshore and Offshore Facilities, #20; Morro Bay Wind Energy Area, #22; Humboldt Wind Energy Area, #23; and PacWave South Project, #24) would contribute to cumulative impacts in combination with the Proposed Project. During the implementation of these projects, marine traffic would be generated from the deployment of vessels, equipment, and building materials for the construction, operation, or decommissioning of offshore energy facilities. However, these projects would be required to comply with applicable marine vessel safety regulations to minimize their contribution to cumulative impacts related to marine safety.

The Proposed Project would require up to 15 barge round trips to transport cofferdam gravel by during Period 1A, as well as three barge round trips to transport Discharge Structure void fill by barge and28 barge roundtrips to export waste during Period 1B (spans Phases 1 and 2). During the export of waste, two empty barges would also be staged at an offshore mooring in Avila Bay/Port San Luis and transported to the DCPP Intake Cove when sufficient waste containers are filled and ready for loading. The offshore marine traffic generated by the Proposed Project,

although occurring over several years, would be intermittent, temporary, and would cease with completion of decommissioning activities, which means that the Proposed Project would not make a lasting contribution to cumulative impacts associated with marine traffic. During decommissioning activities, the barge routes to Portland and Boardman, Oregon, and from the Port of Long Beach and Santa Catalina Island, would be 50 nautical miles from the coastline, which would minimize interference with other marine vessels. Barge operations are also required to comply with existing marine vessel safety regulations, including coordination with the US Coast Guard and avoiding or minimizing the crossing of traffic lanes. In addition, with implementation of MMs TRA-7 and TRA-8, which include coordinating with harbormasters at local ports and contracting with a marine surveyor to prepare safety assessments, barge transport associated with the Proposed Project would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

Phase 2

Ground Transportation

Phase 2 of the Proposed Project would further reduce the land use intensity of the DCPP site when compared to existing conditions and would result in less vehicle travel in the area. The potential overlap with roadway improvements noted in Phase 1 would be the same circumstances in Phase 2. Therefore, Phase 2 of the Proposed Project does not contribute to any cumulative impacts.

Marine Transportation

A portion of the barge trips to export waste from the DCPP site and import rock from Santa Catalina Island for filling the Discharge Structure void would likely extend into Phase 2. In addition, during the export of waste, two empty barges would also be staged at an offshore mooring in Avila Bay/Port San Luis and transported to the DCPP Intake Cove when sufficient waste containers are filled and ready for loading. Similar to Phase 1, to minimize interference with other marine vessels, the barge routes to Portland and Boardman, Oregon, and from Santa Catalina Island, would be 50 nautical miles from the coastline. Barge operations are also required to comply with existing marine vessel safety regulations, including coordination with the US Coast Guard and avoiding or minimizing the crossing of traffic lanes. In addition, with implementation of MMs TRA-7 and TRA-8, including, coordinating with the harbormasters at local ports and contracting with a marine surveyor to prepare safety assessments, barge transport associated with the Proposed Project would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

Post-Decommissioning Operations

Ground Transportation. The operations of the Marina could include up to 200 people daily accessing the Marina primarily by vehicle entering from Avila Beach Drive. These trips would not result in a cumulatively considerable increase in VMT related to the projects identified above and would overall remain less than the existing condition, and as they would include regular passenger vehicles and legal boat trailers. These trips would also not result in a cumulatively considerable contribution to impacts related to incompatible vehicles on public roads nor create conditions that would result in inadequate emergency access.

Marine Transportation. As stated previously, operations at the DCPP Intake Cove would be required to comply with applicable marine safety regulations. Therefore, these operations would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

4.16.6 Summary of Significance Findings

Table 4.16-4 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project.

Table 4.16-4. Summary of Impacts and Mitigation Measures – Transportation

	Impact Significance Class				
	Phase 1		Phase 2	Post-Decom	
Impact Statement	***DCPP***	***PBR/SB***	***DCPP***	***Ops/ Marina***	**Mitigation Measures**
TRA-1: Conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b) related to vehicle miles traveled (VMT); result in a net increase in VMT compared with the existing use	NI	NI/NI	NI	NI/NI	None required
TRA-2: Add traffic to a roadway that has design features that are incompatible with the type of Project vehicles that are to be used	II	II/II	II	NI/NI	**EM-2:** Project Plan, Updating, Tracking, and Reporting **TRA-1:** Truck Transportation Outside of Peak Hours
TRA-3: Alter roadway conditions, such as the closure of both lanes of traffic of a roadway that serves as the primary ingress and egress for an area, in a way that would result in inadequate emergency access	II	III/II	II	NI/III	**EM-2:** Project Plan, Updating, Tracking, and Reporting **TRA-2:** Specialty Heavy-Haul Transport Vehicle Transportation Management Plan **TRA-3:** Decommissioning Liaison **TRA-4:** Advance Notification of Decommissioning **TRA-5:** Quarterly Decommissioning Updates **TRA-6:** Diablo Creek Crossing Structure Inspection and Repair
TRA-4: Reduce the existing level of safety for marine vessels because of offshore barge transport and post-decommissioning operations at the improved DCPP Intake Cove	II	NI/NI	II	NI/III	**TRA-7:** Coordination with Harbormasters **TRA-8:** Marine Surveyor Assessment
Cumulative Impact	Not cumulatively considerable		Not cumulatively considerable		None required

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long-Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

4.17 Wildfire

This section describes environmental effects related to wildfire prevention and suppression caused by implementation of the Proposed Project. This section addresses existing environmental conditions in the Project area, existing laws and regulations applicable to wildfire prevention and suppression, and an analysis of Project impacts related to wildfire prevention and suppression. Additionally, this section recommends measures to avoid or reduce impacts from implementation of the Proposed Project.

Scoping Comments Received. During the scoping comment period for the EIR, written and verbal comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. Appendix B includes all comments received during the scoping comment period. The following list provides a summary of scoping comments applicable to this issue area and considered in preparing this section:

- Address impacts to Avila's one-way in and out access in terms of potential earthquake, fires, tsunamis, and nuclear facility events.

4.17.1 Environmental Setting

4.17.1.1 Wildland Fire

Project Location

The Proposed Project consists of the Diablo Canyon Power Plant (DCPP), the Pismo Beach Railyard (PBR) and Santa Maria Valley Railyard – Betteravia Industrial Park (SMVR-SB).

The DCPP property is located on the coast adjacent to the Pacific Ocean in San Luis Obispo County, approximately 7 miles northwest of the community of Avila Beach. With the exception of the industrial DCPP facility, the approximately 750-acre high-security zone surrounding the facility is relatively undeveloped and contains grasslands and dense oak woodlands. This high-security zone is defined by the Nuclear Regulatory Commission (NRC) nuclear power unit operating licenses and is within PG&E's approximately 12,000-acre owner-controlled area, which is comprised of largely undeveloped lands owned by PG&E or Eureka Energy.

The PBR site is in the City of Pismo Beach, and the SMVR-SB site is in unincorporated Santa Barbara County. Both rail sites are in more developed communities compared to the DCPP and are adjacent to residential development or actively farmed agricultural lands.

Climate and Topography

The DCPP site has a Mediterranean climate characterized by warm, dry summers and cool winters with most rainfall (based on the nearest community of Avila Beach) occurring between the months of November and April (Weather Atlas, 2021a). Coastal fog, also known as the marine layer, moderates coastal climate by reducing temperatures, raising humidity, and supplying moisture to the landscape (Langridge, 2018). The marine layer along the coast augments rainfall and provides moisture for plants and affects fuel moistures. Given the proximity of the DCPP to the Pacific Ocean, humidity levels average about 62 percent. The average temperature ranges from about 53 degrees Fahrenheit (°F) to about 70°F (Weather Atlas, 2021a).

The PBR and SMVR-SB sites are located approximately 0.75 and 9.7 miles inland from the Pacific Ocean, respectively. Similar to the DCPP site, the City of Pismo Beach experiences a mild coastal climate year-round. The area surrounding the City of Santa Maria experiences average temperatures ranging from around 55°F to 70°F and average humidity levels of about 62 percent. Precipitation is highest from October through April (Weather Atlas, 2021b).

Most of the infrastructure at the DCPP site is located on a relatively flat terrace. The reactors and primary system equipment for Units 1 and 2 are located on the main terrace at 85 feet above sea level. Other components such as the Independent Spent Fuel Storage Installation (ISFSI), 230- and 500-kilovolt (kV) switchyards, proposed firing range, and proposed GTCC Waste Storage Facility are located at slightly higher elevations on an upper terrace just northeast of Units 1 and 2. Extending from the DCPP site and to higher elevations are the 230 kV and 500 kV DCPP transmission lines. The DCPP facility is surrounded by gradual sloping hills that form the Irish Hills (see Figure 2- 8), which are a subrange of the Santa Lucia Range (Alterman et al., 1994). The Irish Hills are situated between the communities of Los Osos to the north and Avila Beach to the south (San Luis Obispo, 2019). They are characterized by relatively high relief (e.g., difference between the highest and lowest elevations) and crest elevations of 1,400 to 1,600 feet.

The PBR is primarily located on relatively level topography with elevations ranging from 30 to 100 feet above mean sea level within a narrow valley. Sloping hills surround the site immediately to the east and west. Some portions in the western area of the site along Price Canyon Road are steeper and drain eastward.

The SMVR-SB site is located on flat land within the Santa Maria Valley. No hills or mountains are located nearby.

Fire Factors

The four major factors that influence fire behavior in San Luis Obispo County are fuels, weather, topography, and human behavior. The area surrounding the DCPP includes chaparral, coastal scrub, and oak woodland habitats that are characterized by drought-tolerant and highly combustible plant species. Native shrub species that compose chaparral vegetation present a high hazard based on physiology (resin content), biological function, physical structure, and overall fuel loading (San Luis Obispo, 2019). These vegetation types are adapted to fire; in the absence of periodic, small fires, high fuel loads increase the risk for a large wildfire event. Woodlands also pose a wildfire risk that is exacerbated by the bark beetle epidemic, Sudden Oak Death, and other diseases. Weakened or dead trees are hazardous for wildfire ignition, as beetle infestations and diseases weaken their structures and increase the available amount of dry fuel (San Luis Obispo, 2019).

Fire danger rises and falls seasonally with changes in temperature, humidity, and fuel moisture (San Luis Obispo, 2019). During the summer months, coastal areas experience summer fog that increases moisture, reducing the flammability of fuel. However, the southern portion of the of San Luis Obispo County also occasionally experiences foehn winds (i.e., Santa Lucia Winds, a type of dry, warm, down-slope wind) along the west side of the coastal mountain range. Strong, onshore sea breezes are also common in the western portions of San Luis Obispo County during the summer months as marine air is drawn inland by thermal low pressure. The strong winds in

the DCPP area can exacerbate wildfire dangers because these winds can supply a fire with additional oxygen, provide even more dry potential fuel, and push the fire across the land at a faster rate.

The hilly topography and dense vegetation surrounding the DCPP facility establish conducive conditions for wildfire spread during the dry season. Topography describes the variability of elevation of the land and is commonly characterized by measurements of slope, elevation, and aspect (i.e., the direction that a slope faces). Slope is the steepness of the land, typically presented in units of percent or degrees. Steeper slopes tend to affect fire behavior, as fire moving uphill can preheat and dry out vegetation, accelerating the speed of fire movement. Elevation affects temperature, humidity, wind speed, and the growing season of vegetation. In lower elevations, fuels tend to dry out earlier in the year because of higher temperatures and lower precipitation levels compared to higher elevations (San Luis Obispo, 2019).

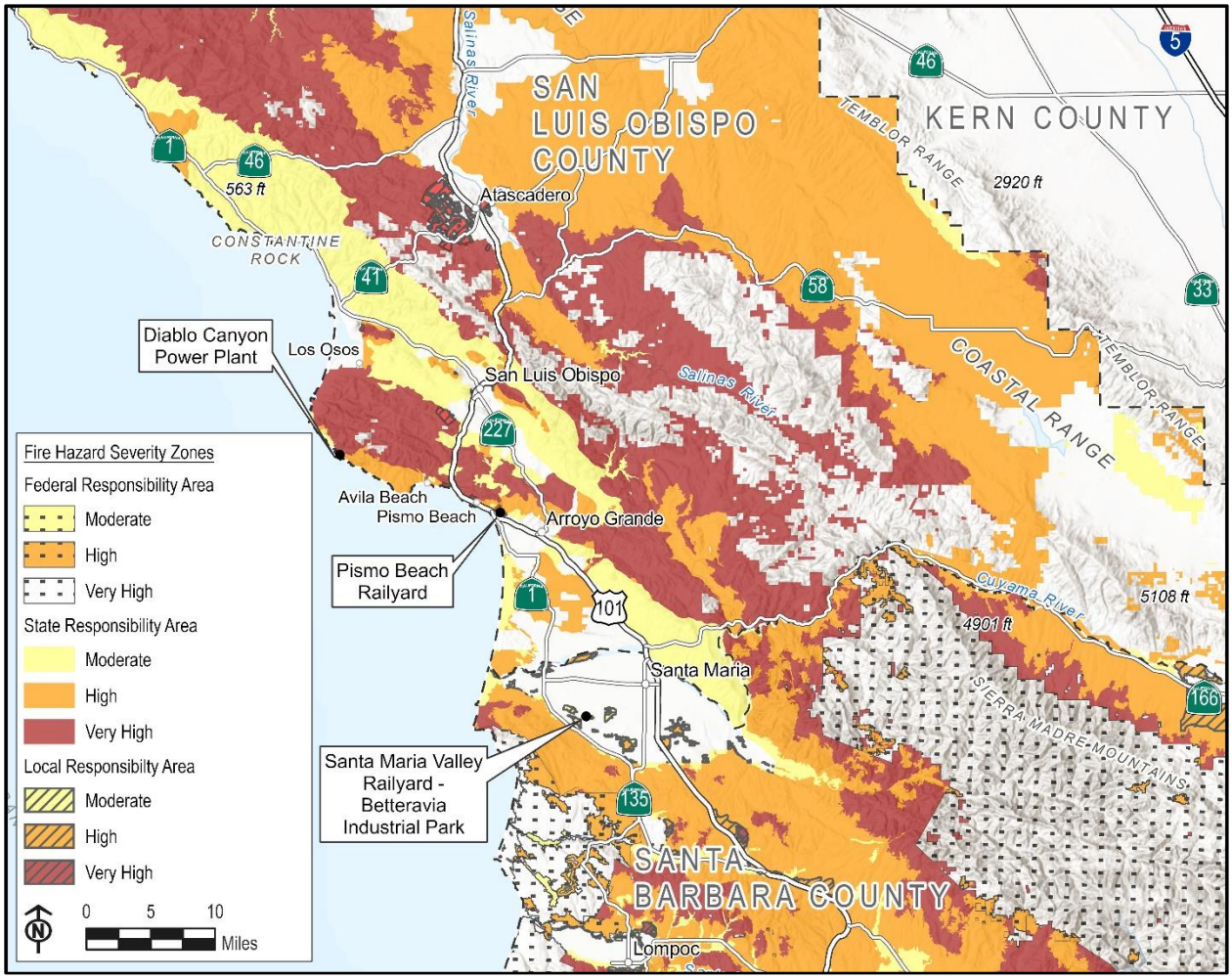
Aspect affects the amount of solar radiation (sunlight) absorbed by plants. Southern aspects typically receive maximum solar radiation, while northern aspects receive the least. Soil and plant moisture contents are the primary factor influenced by solar radiation. Vegetation on south-facing slopes tend to be more drought tolerant than those adapted to northern aspects. In addition, south-facing slopes tend to have less vegetation and lighter fuel loads, particularly at lower elevations. However, vegetation in these areas tend to dry out sooner and more thoroughly during the fire season. Northern aspects are more shaded, thus delaying the drying of fuels during fire season, but because of their higher fuel loading, heavily vegetated north slopes can experience more severe wildfire.

Human activity is considered to be one of the main contributors to wildfire ignition. Based on historical fire data in the County, the primary causes of ignition include powerlines, vehicles, equipment use, arson, campfires, and debris burning (San Luis Obispo, 2019). Spatial analysis of ignition locations indicates a direct correlation between ignitions and transportation corridors, with almost half of known ignition points being located within 20 feet of roads. A high density of ignitions also occurs within or adjacent to urban areas, with notable concentrations near the communities of Cambria, Lake Nacimiento, Paso Robles, Templeton, Atascadero, Los Osos, San Luis Obispo, Arroyo Grande, and Nipomo (San Luis Obispo, 2019). The concentration of ignitions near human development points to human activities as a substantial contributor to fires.

Fire Hazard Severity Zones

The California Department of Forestry and Fire Protection (CAL FIRE) manages the Fire Hazard Severity Zone (FHSZ) Viewer, which identifies areas of Moderate, High, and Very High FHSZs and local responsibility areas (LRAs), state responsibility areas (SRAs), and federal responsibility areas (FRAs). FHSZs are determined based on factors such as fuel availability, slope, fire history, vegetation, flame length, terrain, and weather. Figure 4.17-1 provides a high-level overall view of FHSZs in the County of San Luis Obispo and northern Santa Barbara County.

Figure 4.17-1. Fire Hazard Severity Zones

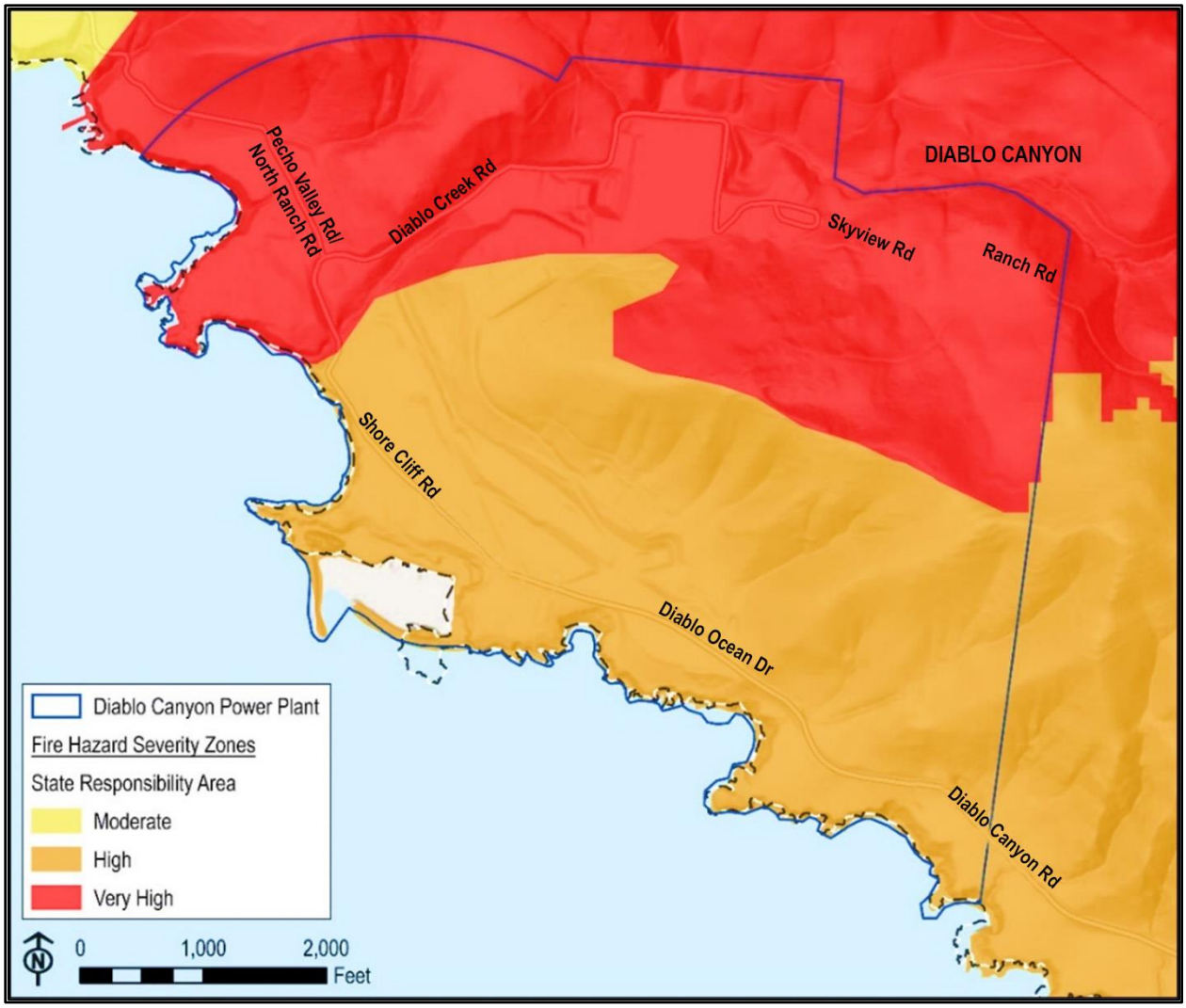


Source: PG&E, 2021a; CAL FIRE, 2007.

SRAs define areas where CAL FIRE is responsible for fire prevention and suppression. More than 31 million acres and approximately 1.7 million people are within SRAs (CAL FIRE, 2022a). The southern half of the DCPP is located within a High FHSZ, and the northern half is located within and surrounded by a Very High FHSZ within an SRA (see Figure 4.17-2).[46]

[46] On December 16, 2022, the State Fire Marshall provided notice to adopt proposed regulations pursuant to Public Resources Code (PRC) Sections 4202-4204, relating to the classifying of lands in the State Responsibility Area (SRA) into Fire Hazard Severity Zones (FHSZs). Under the proposed regulation, the entire DCPP site would be in the Very High FHSZ.

Figure 4.17-2. State Fire Hazard Severity Zones at DCPP



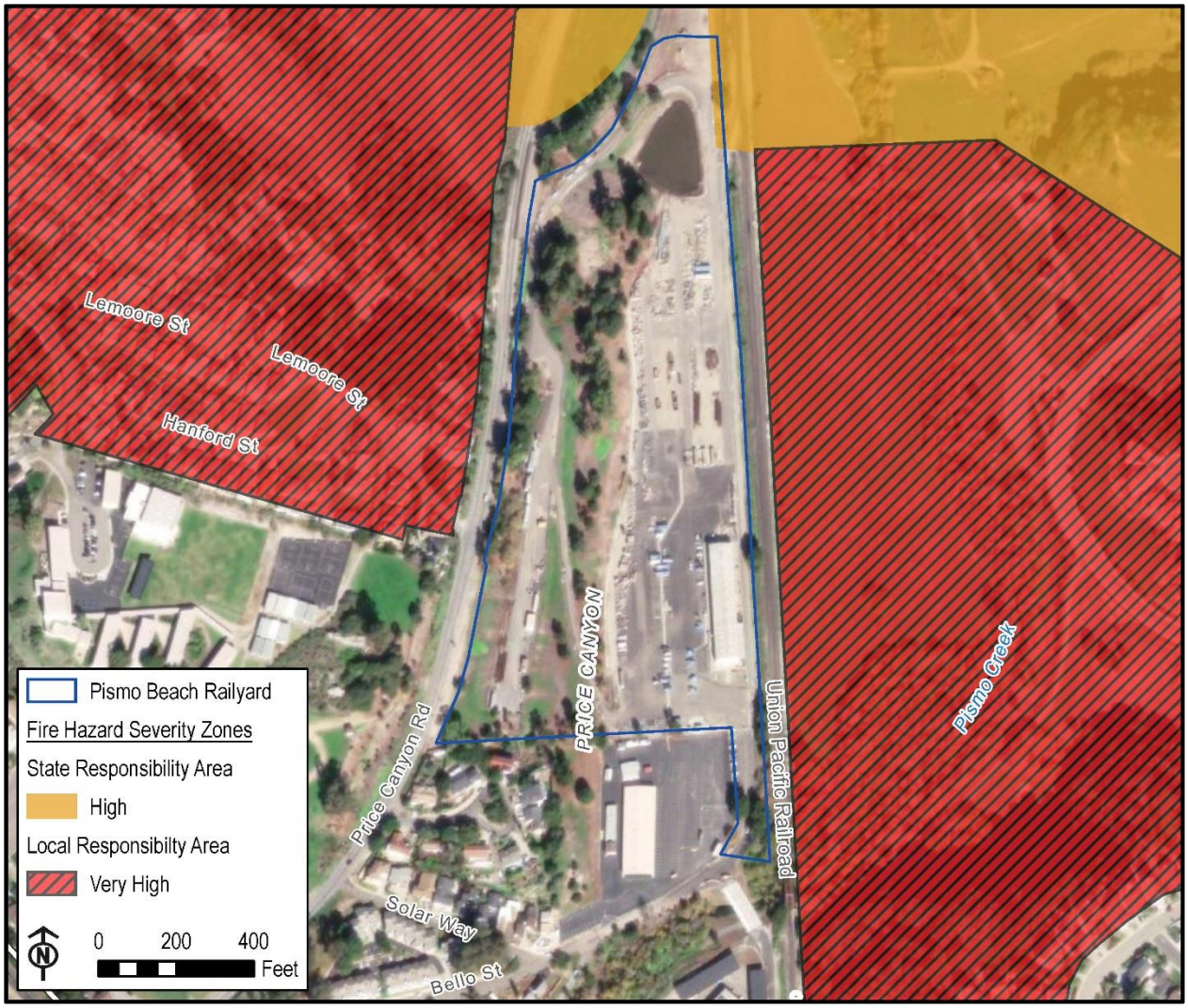
Source: PG&E, 2021a; CAL FIRE, 2007.

The nearest community of Avila Beach is within Moderate and High FHSZs, bordered by a Very High FHSZ to the north and east within an SRA. Although the PBR site is not located within Moderate, High, or Very High FHSZ, it is adjacent to Very High FHSZs within an LRA to the east and west (see Figure 4.17-3).

The SMVR-SB site is not within or adjacent to a Moderate, High, or Very High FHSZ (see Figure 4.17-1) (CAL FIRE, 2022b).

LRAs include incorporated cities, urban regions, agricultural lands, or portions of the desert where local government is responsible for wildfire protection. This is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract. The PBR and SMVR-SB sites are within LRAs.

Figure 4.17-3. State and Local Fire Hazard Severity Zones at PBR



Source: PG&E, 2021a; CAL FIRE, 2007.

Fire History

Periodic wildland fires are a natural part of California's ecosystem and help maintain healthy fire-adapted landscapes. However, wildfires are predominantly caused by climate change and human activity and have increased in severity and frequency over time.

Table 4.17-1 shows the fire frequency in San Luis Obispo and Santa Barbara Counties from 2011 to 2021. In San Luis Obispo County, the average interval between large wildfires of more than 20,000 acres is approximately seven years, with intervals ranging from 1 to 17 years (San Luis Obispo, 2019). The annual acreage burned in 2016 and 2017 was over 30,000 acres, compared to an annual acreage of less than 5,000 acres during each of the previous five years (2011 through 2015). Additionally, the number of fires increased between 2017 and 2021 (65 fires) compared to 2011 and 2016 (29 fires). In Santa Barbara County, the annual acreage burned in 2016 and 2017 was over 170,000 acres, compared to an annual acreage of about 800 acres in the previous five years (2011 through 2015). The number of fires in Santa Barbara County increased between

2017 and 2021 (24 fires) compared to 2011 and 2016 (13 fires). Table 4.17-1 shows a breakdown by year of the number of fires over time and acreage burned in the two counties.

Table 4.17-1. Project Area Fire Summary

County	Year	Number of Fires	Acres Burned
San Luis Obispo County	2011	5	2,080
	2012	4	969
	2013	6	856
	2014	1	47
	2015	3	4,332
	2016	5	50,292
	2017	24	33,652
	2018	14	2,297
	2019	9	5,217
	2020	17	14,023
	2021	1	75
Santa Barbara County	2011	2	960
	2012	1	N/A
	2013	2	2,154
	2014	1	632
	2015	3	284
	2016	4	52,813
	2017	7	301,035
	2018	7	1,804
	2019	4	3,846
	2020	4	2,358
	2021	2	17,040

Source: CAL FIRE, 2021.

Many large wildfires have occurred in San Luis Obispo County, notably the Weferling (1960), Las Pilitas (1985), Chispa (1989), Highway 41 (1994), Highway 58 (1996), Logan (1997), and Chimney (2016) Fires. These fires burned approximately 400,000 acres, destroyed numerous structures, and cost millions of dollars for firefighting efforts. The most recent large fire, the Chimney Fire, destroyed 49 residences and 21 other structures.

An Urban Reserve Line (URL) indicates where urban development is permitted (within the line) and not permitted (outside the line). The Avila URL includes the following subregions:

- Avila Valley
- Cave Landing/Ontario Ridge
- Avila Beach
- San Luis Bay Estates
- Port San Luis

An estimated six wildfires burned under 50 acres within the Avila URL between 2015 and 2020. In June 2020, a wildfire near the Avila URL to the east of US-101 burned over 400 acres of land (San Luis Obispo, 2021).

Based on historical fire perimeter (i.e., outer edge or boundary of a fire) data in San Luis Obispo County, repeated burning primarily occurred in the Santa Lucia Range, federal lands, and chaparral habitat types. Areas with dense chaparral vegetation cover have experienced repeated burn patterns, larger fire perimeters, and repeated burns in the same areas compared to areas with grass-dominated lands in San Luis Obispo County (San Luis Obispo, 2019).

Santa Barbara County experienced 15 major fires within the last decade. The Gap, Tea, Jesusita, Sherpa, Whittier, Holiday, and Thomas Fires have directly threatened the heavily populated areas of Santa Barbara County. The Whittier, Holiday, and Thomas Fires destroyed multiple homes and forced the evacuation of thousands of residents in the communities of Goleta, Carpinteria, and Montecito (SBCFD, 2022a).

Fire Protection

The Diablo Canyon Fire Department (DCFD) consists of three crews with a minimum of five personnel each and provides primary fire protection services to the DCPP site. As described in Table 2-2, *Ongoing and Proposed Plans, Programs, and Reports*, the existing Operational Plan provides for the unified response between San Luis Obispo County Fire Department and the DCFD during a fire incident at DCPP (San Luis Obispo County Fire Department contracts with CAL FIRE to provide fire protection services, hereinafter referred to as "CAL FIRE/County Fire"). DCPP has a fire alarm system and existing site procedures covered by the Operational Plan for emergency fire response. PG&E has a memorandum of understanding with CAL FIRE/County Fire to provide backup fire protection service if the DCFD requires additional assistance. Fire protection services needs at DCFD would change once all spent nuclear fuel (SNF) has been moved to the Independent Spent Fuel Storage Installation (ISFSI) (i.e., expected by August 2029). PG&E proposes to amend the Operational Plan to specify the terms of the transition process for fire protection services. Additionally, according to Table 2-2, the Transition Plan would be implemented to provide for transitioning fire protection services from the DCFD to CAL FIRE/County Fire in a manner agreeable to both entities. Section 2.3.23, *Site Conditions at End of Phase 1,* describes the transition of fire protection services at the DCPP when all SNF has been moved to the ISFSI. Some DCFD personnel would remain on site for a period of time during the transfer of SNF to the ISFSI to provide fire protection support.

The closest CAL FIRE/County Fire station to the DCPP site is the Avila Valley Fire Station, located in Avila Valley at 1551 Sparrow Street (Avila Valley Fire Station 62), with an estimated 17-minute response time from the station to the power plant portion of the DCPP site (PG&E, 2021b). The Avila Valley Fire Station is staffed with two permanent personnel. The DCPP is accessed via the 7-mile primary access road (Diablo Canyon Road) that traverses from Port San Luis to the power plant (PG&E, 2021a).

Through cooperative agreements, CAL FIRE also provides fire protection services for the City of Pismo Beach and the Avila Beach Community Services District. Within the County of San Luis Obispo, CAL FIRE has six battalions with 23 fire stations, three of which are in the City of Pismo

Beach and Avila Beach (San Luis Obispo County Fire Department, 2022). The Santa Barbara County Fire Department has three battalions with 16 fire stations (SBCFD, 2022b).

PG&E Wildfire Safety Policy

PG&E manages the DCPP Wildfire Safety Policy, which establishes the Fire Potential Index Rating. This rating determines the risk of fire and its likely behavior. Its calculation and scale from "R1" to "R5-Plus" considers factors such as fuel moisture, humidity, wind speed, air temperature, and historical fire occurrence. These ratings are listed as follows (PG&E, 2021b – Attachment 3).

- R1: Very little or no fire danger.
- R2: Moderate fire danger.
- R3: Fire danger is so high care must be taken using fire-starting equipment. Local conditions may limit the use of machinery and equipment to certain hours of the day.
- R4: Fire danger is critical. Using equipment and open flames is limited to specific areas and times.
- R5: Fire danger is so critical that using some equipment and open flames are not allowed in certain areas.
- R5-Plus: The greatest level of fire danger where rapidly moving, catastrophic wildfires are possible. This is typically when fire danger is R5, "plus" there are high-risk weather triggers (e.g., strong winds).

The Wildfire Mitigation Matrix is a list of work activities, descriptions, and general risk reduction measures based on the Fire Potential Index Ratings for work within or near any forest, brush, or grass-covered lands (PG&E, 2021b – Attachment 3).

Landslides and Debris Flows

Wildfires contribute to loss of soil stability, leading to the possibility of landslides and/or debris flows. Once vegetative fuel and manmade structures are burned, root systems and foundations are weakened or completely destroyed. During heavy storms after a wildfire event, post-fire hillsides and slopes are especially susceptible to landslides and debris flows. Wildfire-induced landslides and debris flows may occur in areas adjacent to the Project sites, such as the hilly terrain surrounding the DCPP, the community of Avila Beach, and the PBR.

Evacuation Routes

Roads provide critical evacuation routes for people during a wildfire event. Diablo Canyon Road provides primary access for employees to and from the DCPP site. The paved two-lane, approximately 7-mile road runs from the main DCPP Access Gate off Avila Beach Drive near Port San Luis to the DCPP.

Avila Beach Drive provides access to the main DCPP Access Gate. Avila Beach Drive is considered a crucial evacuation route that connects San Luis Bay west into the community of Avila Beach, Cave Landing, Avila Point, and Port San Luis; no other secondary roads provide the same level of access that meet road standards. This constraint is further exacerbated during summer weekends

and holidays when traffic levels in the area may potentially impede evacuation. Traffic on Avila Beach Drive can exceed capacity during special events in the summer, when attendance can range from 1,000 to 5,000 people (San Luis Obispo, 2021).

PG&E's North Ranch Road/Pecho Valley Road serves as a fire department equipment access route to the DCPP from the north. It is also used as an alternative route for DCPP personnel if Diablo Canyon Road is out of service, and for ranching and land management activities for the North Ranch. The access route could also be used as an emergency evacuation route for Avila Beach and Port San Luis, if Avila Beach Drive and San Luis Bay Drive were compromised.

4.17.2 Regulatory Setting

The primary federal and state laws, regulations, and policies that are applicable to the Proposed Project are summarized in Appendix C. This section describes the relevant local laws, regulations, and policies for wildfire.

San Luis Obispo County General Plan, Safety Element. The San Luis Obispo County General Plan Safety Element outlines the County's applicable goals and policies regarding wildfire safety (San Luis Obispo, 1999).

Goal S-4: Reduce the threat to life, structures, and the environment caused by fire.

> Policy S-14. Ensure that adequate facilities, equipment, and personnel are available to meet the demands of fire fighting in San Luis Obispo County based on the level of service set forth in the fire agency's master plan.
>
> Policy S-15. The CAL FIRE/County Fire Department will maintain and improve its ability to respond and suppress fires throughout the County.

San Luis Obispo County Strategic Community Wildfire Protection Plan. The Community Wildfire Protection Plan was developed to collaboratively address fire protection planning efforts occurring in the County of San Luis Obispo, to minimize wildfire risk to County watershed lands, communities, assets, firefighters, and the public. It is developed to work cohesively with the California Fire Plan. The Community Wildfire Protection Plan provides a county-level strategic planning framework for wildfire hazard assessment and risk reduction within the County (San Luis Obispo, 2019).

SRA Fire Safe Regulations, 2020. These regulations constitute the basic wildfire protection standards of CAL FIRE within CAL FIRE/County Fire's jurisdiction within the SRA. The regulations are established to ensure that minimum wildfire protection standards, combined with building construction and development, are met (San Luis Obispo County Fire Department, 2020).

City of Pismo Beach General Plan, Safety Element. The City of Pismo Beach General Plan, Safety Element contains the following relevant policies related to wildfire and wildland fires (Pismo Beach, 2014).

Policy S-23: Evacuation Routes. Highways generally most suitable as evacuation routes are US-101, Highway 1, and Price Canyon Road. The particular route and direction of evacuation shall

be determined at the time of an emergency situation based upon an evaluation of conditions at that time by the county and city emergency operations centers.

County of San Luis Obispo, Avila Community Plan. The County of San Luis Obispo's public draft of the Avila Community Plan provides a planning framework that includes the following wildfire safety considerations (San Luis Obispo, 2021).

ER-8. Wildfire Hazards. Minimize the threat of wildfire hazards in the community of Avila.

> Program ER-8.1. Wildfire Hazards. Implement and manage strategies to prevent impacts of wildfire hazards.

CIR-8. Emergency Evacuation Access. Provide additional emergency evacuation routes.

> Program CIR-8.1. Emergency Evacuation Plan. Coordinate with the County Office of Emergency Services to prepare a community emergency evacuation plan for the Avila URL as an extension of the existing County Emergency Operations Plan.

Santa Barbara County Comprehensive Plan, Seismic Safety and Safety Element. The Santa Barbara County Comprehensive Plan, Seismic Safety and Safety Element provides the County's applicable goals and policies regarding wildfire hazards (Santa Barbara, 2015). As described in Section 1.3.3, *Federal*, railroads are under the jurisdiction of the federal government such that local agencies are preempted from exercising jurisdiction.

Goal 1: Protect the community from unreasonable risks associated with the effects of wildland and urban fires pursuant to Government Code 65302 (g)(1).

> Fire Policy 1. Continue to pursue and promote County fire prevention programs and control measures.
>
> Fire Policy 4. To reduce the potential for fire damage, the County shall continue to require consistency with County Fire Department Development Standards pursuant to the California Fire Code, Public Resource Code §4291, and Government Code §51175-51188.

Santa Barbara County Fire Department (SBCFD), 2022 Unit Strategic Fire Plan. The 2022 Unit Strategic Fire Plan was developed as a collaborative planning and assessment tool that provides pre- and post-fire management strategies to assess wildfire hazards and reduce associated risk. The Plan identifies goals and objectives that decrease wildland fire risk to County watersheds, communities, firefighters, the public, and other assets (SBCFD, 2022).

4.17.3 Significance Criteria

The significance criteria used to evaluate the Proposed Project's impact to Wildfire are based on Appendix G of the State CEQA Guidelines. A significant impact would occur if the Proposed Project would:

- Substantially impair an adopted emergency response plan or emergency evacuation plan.
- 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.

- 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.
- 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.

4.17.4 Environmental Impact Analysis and Mitigation

Impact WF-1: Substantially impair an adopted emergency response plan or emergency evacuation plan (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

The Proposed Project would involve decommissioning activities at the DCPP site, requiring truck trips along Avila Beach Drive that could increase traffic congestion along this road and thereby affect Avila Beach's emergency response and limited evacuation capabilities. Avila Beach Drive is a crucial evacuation route that connects San Luis Bay west into the community of Avila Beach, Cave Landing, Avila Point, and Port San Luis.

During Phase 1 decommissioning activities, worker vehicles, trucks, heavy load trucks, and other equipment would access the DCPP site via Avila Beach Drive, the primary public road. These vehicles and equipment would periodically increase traffic congestion along Avila Beach Drive, particularly during special events occurring during the peak summer season when tourists increase traffic and parking demand in Avila Beach. Up to 79 (158 one-way) specialty transport vehicles or heavy-haul transport vehicle trips would be required to transport Large Component Class A Waste or RPV/RVI class A/B/C Irradiated metal to the SMVR site, Utah, or Texas for disposal. The vehicles, which generally have 12 axles, are 20 feet wide, and 200 feet long, may also require lane closures on certain roads due to their size (whether empty or loaded), which could obstruct or slow down emergency service access on affected roads, such as Avila Beach Drive. Although the California Highway Patrol would escort the vehicles during all movements in California, given the width of the specialty heavy-haul transport vehicles (20-feet) and the width of Avila Beach Drive (22-feet), the use of the specialty heavy-haul transport vehicles and accompanying lane and road closures would only be allowed to occur at night (10:00 p.m. – 5:00 a.m.), as required by Mitigation Measure (MM) TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*).

To ensure emergency service providers can provide emergency services along the transportation route during specialty heavy-haul transport, MM TRA-2 requires that a Specialty Heavy-Haul Transport Vehicle Transportation Management Plan be prepared and implemented identifying the schedule, routes, coordination, notification, and monitoring for heavy-haul transport vehicles and associated road closures. MM TRA-2 would support coordination with emergency service providers by notifying them of peak construction activities and routes so that emergency response can be adapted to changing construction conditions as necessary. As such, impacts associated with these road closures would be reduced to less than significant (Class II).

The number of worker-related trucks traveling on Avila Beach Drive during decommissioning would be fewer than the daily number of employee vehicles that currently travel to the DCPP site. According to Section 2.2.3, *Existing Project Setting*, there are currently between approximately 1,157 and 1,400 workers on site during typical operating conditions. During Phase 1, the number of workers would decrease to approximately 870 and would continue to fluctuate but generally decrease as Phase 1 progresses. Therefore, the number of worker vehicles entering and exiting the DCPP site would decrease during Phase 1 compared to existing operating conditions. Overall, there would be a net decrease in vehicle trips to and from the DCPP site, which would reduce traffic congestion and associated impacts to Avila Beach Drive.

Trucking of waste from the DCPP site during Phase 1 and topsoil to the site during Phase 2 would occur during non-peak periods to avoid traffic-related impacts to Avila Beach, further reducing the impairment of Avila Beach Drive as an evacuation route. Specifically, MM TRA-1 (*Truck Transportation Outside of Peak Hours*) requires that truck transportation occur outside of peak traffic periods and includes the timeframes when decommissioning truck traffic is not allowed on Avila Beach Drive. Therefore, if an emergency evacuation occurs during peak hours, it would not be impaired by worker-related truck traffic, as MM TRA-1 would prevent truck transportation from occurring during peak hours.

Each truck entering DCPP would be subject to an approximately 30-second security screening process at the main security gate. The screening process would not be lengthy such that it would cause a long queue of trucks on Diablo Canyon Road/Diablo Ocean Drive or Avila Beach Drive (PG&E, 2022 – DR#8, Transportation 2).

Phase 1 involves demolishing most of the existing buildings at the DCPP. Although demolition activities may introduce a risk of fire due to causes such as sparks, hot exhaust pipes from vehicles, faulty wiring, or cigarettes, the DCPP facility has safety protocols in place that would continue to be followed throughout decommissioning activities, minimizing the likelihood of an emergency. Section 2.2.4, *Ongoing Safety and Environmental Activities*, identifies the Emergency Plan (Police Protection), Operational Plan, and the Transition Plan that may reduce the need for increased fire and police protection service by addressing safety protocols. Implementing the measures outlined in these plans would reduce the potential for accidents to occur, involve coordination and communication with emergency responders, address on-site emergency preparedness, address training and drills, and specify the terms of the transition process for fire protection services (see Table 2-2). To ensure that these proposed plans are revised, implemented and adhered to throughout the duration of the Project to reduce impacts to a less-than-significant level, MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) is recommended. MM PSU-1 requires PG&E to identify the applicable plans, update them for decommissioning, record applicable specific recommendations during Project activities, and provide proof of implementation to the County. MM PSU-1 would require updating and tracking of items such as firefighting preplans, dispatch and notification, and communications that would support emergency response. Specifically, the Emergency Plan for Police Protection would be updated to address the modification to DCPP security once the SNF is transferred to the ISFSI and the GTCC waste is securely stored at the GTCC Waste Storage Facility. It would also identify the policing agencies' (i.e., CHP, County Sheriff) roles and responsibilities following decommissioning. The current Operational Plan agreement with CAL FIRE/County Fire, in particular, must be modified to address the Project-

specific decommissioning risks, such as security of the Project sites during decommissioning and radiation protection during removal and transport activities in accordance with NRC requirements. The Transition Plan would provide for transitioning fire protection services from the DCFD to CAL FIRE/County Fire in a manner agreeable to both entities such that the level of service of fire protection or paramedic services would be at a level appropriate for the site post-decommissioning. Recommendations of MM PSU-1 would meet the requirements of the National Fire Protection Association (NFPA) standards. Updating and implementing the plans and programs would help reduce the potential for accidents to occur while ensuring adequate availability of public safety services throughout decommissioning, and thus prevent increasing response times for fire or police protection.

Although nuclear reactor electrical generating activities would cease to occur following shutdown of the two reactors, and the number of on-site workers would be reduced, dismantling the DCFD facilities and on-site firefighting staff would result in an unacceptable response time for the nearest fire station (Avila Valley Fire Station 62) to respond to an incident at DCPP or surrounding recreational areas such as Montaña de Oro State Park. Closure of the DCFD would increase the burden of providing emergency services on Avila Valley Station 62. Avila Valley Station 62 has only one fire engine and an inadequate response time of 17 minutes to the DCPP site, which is more than CAL FIRE/County Fire's targeted response time of 15 minutes for the full range of service levels for rural areas (CAL FIRE/San Luis Obispo County Fire, 2012). The level of service would decline, as Avila Valley Station 62 would not adequately support both the DCPP site and the community of Avila Beach if multiple emergency events were to occur simultaneously (San Luis Obispo, 2022).

Therefore, MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*) is recommended to maintain an acceptable level of service at the DCPP site, surrounding area, and Avila Beach throughout the entire duration of the Proposed Project, and would reduce impacts affecting response times for fire to a less-than-significant level (Class II). MM PSU-2 would require the DCFD to be staffed in accordance with the NFPA staffing standards for an industrial construction site and to retain firefighting vehicles and equipment. MM PSU-2 would provide a continuous and acceptable level of service for the DCPP site and community of Avila Beach by retaining existing emergency response facilities and staffing to avoid inadequate response times.

Railyards

Pismo Beach Railyard. During Phase 1, if used, the PBR site would require minimal infrastructure modifications and would be used for the transport of non-radiological waste and non-hazardous waste from the DCPP to the PBR. Infrastructure modifications and waste transport to the PBR site would not require road or partial lane closures that could impair any evacuation routes. Trucks traveling to the PBR site would access the site via the Bello Street driveway and not from the existing Price Canyon Road driveway. The existing security gate is operated via a security key card that would be used to allow trucks into the site. The process time would be approximately 30 seconds or less such that there would be no expected queuing of trucks on Bello Street (PG&E, 2022 – DR#8, Transportation 4).

The shipment of non-radiological and non-hazardous waste would occur outside of peak traffic periods (7:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m.) and avoid the morning and

afternoon drop-off and pick-up periods for students at Judkins Middle School as required by MM TRA-1 (*Truck Transportation Outside of Peak Hours*). In addition, truck idling would be limited to the extent feasible to substantially lessen obstructing emergency vehicle access along major routes in the City of Pismo Beach such as US-101 and Price Canyon Road. By avoiding the Price Canyon Road driveway, trucks would not back up or slow down traffic along Price Canyon Road, further avoiding impacts to emergency response along this evacuation route. In addition, only non-radiological and non-hazardous waste would be transported to the PBR site. Temporary storage of any non-radiological or non-hazardous waste at the PBR site would be kept at least one foot above any existing Federal Emergency Management Agency 100-year floodplain elevation (PG&E, 2021b – Hydro-2). This would reduce the need for emergency response during the transport and temporary storage of non-radiological wastes. Therefore, the impact would be less than significant with mitigation (Class II).

SMVR-SB. The SMVR-SB site is adjacent to industrial businesses, agricultural fields, and undeveloped private lands. The SMVR-SB site would require infrastructure modifications to support transport of Class A, B, and C radioactive waste and radiologically contaminated large components for out-of-state disposal. A maximum of 79 specialty heavy-haul transport vehicle trips may be required to transport waste to the SMVR site. Due to the large width of these trucks, waste transport to the SMVR-SB site may require lane closures on certain roads that could impair segments of evacuation routes.

As described in Section 2.3.19, *Decommissioning Waste Transportation and Disposal*, trucks traveling to the SMVR-SB site would utilize Betteravia Road. There are several surrounding roads that connect to US-101, the primary evacuation route, that motorists and emergency response vehicles can access. California Highway Patrol would escort the specialty heavy-haul transporter during all movements in California to ensure safe transport. Furthermore, shipments to the SMVR-SB site would occur outside of peak traffic times (between 7:00 a.m. and 9:00 a.m. and between 3:00 p.m. and 6:00 p.m.), as required by MM TRA-1 (*Truck Transportation Outside of Peak Hours*). In addition, MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan)* requires the preparation of a Traffic Management Plan to address road and lane closures associated with the use of specialty heavy-haul transport to ensure emergency vehicles can still access the area, and evacuations could still occur. With implementation of MMs TRA-1 and TRA-2, the temporary presence of trucks traveling to the SMVR-SB site outside of peak traffic times and trips associated with use of the specialty heavy-haul transport vehicle would not obstruct any evacuation routes or impair emergency access. MM TRA-2 would require the identification of parking restrictions, locations of no parking signage, and maintenance of a minimum 10-foot clear emergency travel lane adjacent to shoulders during road closures. Therefore, in the event of an emergency or evacuation, MM TRA-2 would ensure adequate lanes for emergency circulation. In addition, wastes would be packaged and transported in compliance with U.S. Department of Transportation regulations to prevent hazardous materials spills and reduce the need for emergency response during the transport of wastes. Therefore, the impact would be less than significant with mitigation (Class II).

Phase 2

The level of activity at the DCPP site during Phase 2 would decrease as decommissioning nears completion. Activities would include soil remediation, final status surveys, stormwater management, demolition of remaining utilities and facilities, construction of a blufftop road segment, and post-final site restoration monitoring. The number of workers would decrease to approximately 270 workers and would continue to decrease until the main plant site remediation is complete. As indicated in Table 27, *Waste Transportation Trips Per Period*, an estimated total of 122 direct truck waste transportation trips and approximately 1,760 truck trips for transport of topsoil would occur during Phase 2 over one year compared to an estimated 428 transportation trips via direct truck, truck, or rail during Phase 1. Although there would be a reduction in waste transportation trips during Phase 2, there would be an overall increase in truck trips with the addition of topsoil transport trips. This would increase the likelihood of vehicles obstructing evacuation routes or impairing emergency access along crucial emergency evacuation routes such as Avila Beach Drive. Additionally, although nuclear reactor electrical generating activities would cease to occur following shutdown of the two reactors, and activities during Phase 2 would have a lower potential to obstruct evacuation routes, dismantling the DCFD facilities and on-site firefighting staff would result in an unacceptable response time from the nearest fire station (Avila Valley Fire Station 62) to respond to an incident at DCPP or surrounding recreational areas such as Montaña de Oro State Park. The level of service would decline, as Avila Valley Station 62 would not adequately support both the DCPP site and the community of Avila Beach if multiple emergency events were to occur simultaneously (San Luis Obispo, 2022).

Therefore, MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*) is recommended to maintain an acceptable level of service at the DCPP site, surrounding area, and Avila Beach throughout the entire duration of the Proposed Project, and would reduce impacts affecting response times for fire protection. MM PSU-2 would provide a continuous and acceptable level of service for the DCPP site and community of Avila Beach by retaining existing emergency response facilities to avoid inadequate response times. In addition, MM TRA-1 (*Truck Transportation Outside of Peak Hours*) would require truck transportation to occur outside peak travel periods to reduce the potential for vehicles to obstruct evacuation routes or impede access by emergency vehicles. Furthermore, MM TRA-2 would require the identification of parking restrictions, locations of no parking signage, and maintenance of a minimum 10-foot clear emergency travel lane adjacent to shoulders during road closures. Therefore, in the event of an emergency or evacuation, MM TRA-2 would ensure adequate lanes for emergency circulation. Therefore, impacts would be reduced to less than significant (Class II).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project would include operation of the new GTCC Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. The only staff needed on site would be those required to monitor and protect the ISFSI and GTCC Waste Storage Facility, which would be minimal (not disclosed due to security). Peak staff during ISFSI/GTCC quarterly, annual, and 5-year operations would be less than 50 (see Section 2.5.2, *Staffing Requirements*). These operations would not impair an adopted emergency response plan or evacuation plan, as they would not require road

closures or involve physical obstructions to evacuation routes such as Diablo Canyon Road/Diablo Ocean Drive. Additionally, establishing the blufftop road segment between Shore Cliff Road and North Ranch Road/Pecho Valley Road would enhance emergency access, allowing emergency vehicles to directly access the site from Avila Beach Drive to the south and Montaña de Oro State Park to the north. There would no longer be PG&E staff on site serving as DCFD; however, pursuant to MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*) CAL FIRE/County Fire would provide fire service to the property, post-decommissioning. The impact would, therefore, be less than significant with mitigation (Class II).

Future Actions. The Marina would be made available to a third party for permitting and reuse for recreational, education, or commercial purposes. Operations would include boating activities and operation of the ancillary structures, parking lots, and public restroom facility. These operations would not impair an adopted emergency response plan or evacuation plan, as they would not require road closures or involve physical obstructions to evacuation routes such as Diablo Canyon Road/Diablo Ocean Drive.

Per Title 14 of the California Code of Regulations, Division 1.5, Chapter 7 and 2019 California Fire Code D107, secondary egress in residential areas, a maximum of 250 people and 150 people is permitted in a High FHSZ and Very High FHSZ, respectively, before a formal secondary emergency access road is required (San Luis Obispo County Fire Department, 2020). Permitting and operations at the Marina, which is currently located within a High FHSZ, would be required to comply with these regulations. Additionally, the blufftop road segment constructed in Phase 2 would establish a connection between Shore Cliff Road and North Ranch Road/Pecho Valley Road, which would enhance emergency access, allowing emergency vehicles to directly access the site from Avila Beach Drive to the south and Montaña de Oro State Park to the north. The impact would be less than significant (Class III).

Mitigation Measures for Impact WF-1.

PSU-1 **Facility Plan Updating, Tracking, and Reporting.** See Section 4.14.

PSU-2 **Retain the Diablo Canyon Fire Department and Emergency Facilities.** See Section 4.14.

TRA-1 **Truck Transportation Outside of Peak Hours.** See Section 4.16.

TRA-2 **Specialty Heavy-Haul Transport Vehicle Transportation Management Plan.** See Section 4.16.

Impact WF-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose workers or residences to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire (Class II: Less Than Significant with Mitigation).

Phase 1

DCPP Project Site

Decommissioning, demolition, and trucking activity have the potential to increase the risk of wildfire as well as temporarily place people in a High FHSZ surrounded by Very High FHSZ. The

high fuel load, dry conditions during the fire season, varying topography surrounding the site, and influx of construction workers could expose workers and neighboring development to pollutant concentrations from a wildfire. Although the proposed Security Building, GTCC Waste Storage Facility, and Indoor Firing Range would be constructed within an existing paved area, construction would occur in close proximity to natural areas with oak trees abutting Diablo Creek. In addition, use of the SE Borrow Site would introduce truck transportation and heavy equipment necessary for soil excavation to an undeveloped area of the DCPP site. While nuclear reactor electrical generating activities would cease to occur following shutdown of the two reactors, and the number of workers on site would be reduced, there is a potential for construction activities involving hot work (e.g., welding) and equipment use to pose fire hazards in close proximity to vegetation during adverse high-wind weather conditions.

Implementing the wildfire safety measures such as those outlined in PG&E's Wildfire Mitigation Matrix as part of the DCPP Wildfire Safety Policy (see Table 2-2) would avoid construction hot work and other applicable activities during red flag conditions (PG&E, 2021b – Attachment 3). In addition, compliance with CAL FIRE's defensible space requirements for removal of dead or dying vegetation and debris (PRC Section 4291 and California Code of Regulations Title 14, Section 1299.03 – see Appendix C), and brush removal as required with every grading and construction permit and for improvements to the road leading to the SE Borrow Site, would reduce the potential for sparking vegetation fires. Implementation of MM BIO-3 (*Implement Oak and Native Mature Tree Protection Measures*) would ensure that oak trees are protected outside of work areas, and any required removal or trimming of oaks is adequately mitigated (see Section 4.3, *Biological Resources*). The on-site DCFD would also be available to respond to emergencies during decommissioning per MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*). Therefore, proposed activities would not exacerbate wildfire risks at the DCPP. In addition, although workers would be present at the DCPP site during Phase 1, there would be fewer people (approximately 870 workers) compared to existing operations (approximately 1,400 workers). Decommissioning activities would also follow the Decommissioning Operational Plan (see Impact PSU-1), which would address items including training and drills, firefighting pre-plans, dispatch and notification, safety, and support capabilities between the DCFD and CAL FIRE/County Fire.

Furthermore, PG&E maintains an existing Fire Protection Program for the DCPP in accordance with NRC regulations. This program would transition to the DCPP Decommissioning Fire Protection Program to meet the NRC requirements of 10 CFR 50.48(f) for decommissioning sites, which would address fire prevention, as well as detecting, controlling, and extinguishing fires, and substantially lessen the risk resulting from fires that could release radioactive materials.

The DCPP Decommissioning Fire Protection Program would continue to contain the following elements from the existing Fire Protection Program:

- Administrative controls
- Program organizational responsibilities
- Control of design basis analyses
- Configuration control
- Control of combustibles
- Fire system impairments

- Fire loss prevention standards
- State and local firefighting agency coordination and training
- Training to assure qualified individuals
- Procurement of Fire Protection Program equipment and services
- Conduct of audits, self-assessments, etc.

The DCPP Fire Protection Program also contains the Wildfire Safety Policy, which provides DCPP-specific guidance for preventing and reducing the risk of fires while performing work in the DCPP owner-controlled area. The Wildfire Safety Policy requires work to be evaluated against Utility Standard TD-1464S, *Preventing and Mitigating Fires While Performing PG&E Work*, which establishes requirements for PG&E personnel to follow when traveling to, performing work, or operating outdoors in any forest, brush, or grass-covered land. Fire safety requirements include the following (PG&E, 2021b – Attachments 2 and 3):

- Prohibiting driving through fields, forest, etc. except when performing required work or during an emergency.
- Requiring shovels, McLeod fire tools, or Pulaskis, fire extinguishers, and backpack pump or other water pump/delivery system.
- Ensuring vehicles are parked in areas clear of vegetation and all motors are turned off.
- Training workers on understanding PG&E's Utility Fire Potential Index and Wildfire Mitigation Matrix.
- Requiring a sealed toolbox containing the above-mentioned firefighting tools to be easily accessible at the work site.
- Observing all laws and regulations of local, state, and federal fire authorities with jurisdiction over the work area.
- Reporting all ignition events.
- Restricting smoking to areas away from vegetation.

All workers would be trained on understanding PG&E's Utility Fire Potential Index and Wildfire Mitigation Matrix, which outline allowable and restricted construction activities, tools, and machinery depending on the Fire Potential Index Rating. The types of construction activities and work equipment would generally be limited or completely restricted as the Fire Potential Index Rating increases (PG&E, 2021b – Attachments 2 and 3).

The reduction in workers and overall activity, guidance from the Decommissioning Operational Plan and Transition Plan, and compliance with the Fire Protection Program and Wildfire Safety Policy would reduce the risk of fire at the DCPP site and address fire prevention, safety, and suppression. With worker training and fire preparedness (i.e., keeping fire suppression tools and equipment on vehicles), an on-site fire can be controlled and suppressed. To ensure that these proposed plans and programs are implemented and adhered to throughout the duration of the Project, MM PSU-1 is recommended. MM PSU-1 would require PG&E to identify the applicable plans, update them to address decommissioning, record applicable specific recommendations during Project activities, and provide proof of implementation to the County. MM PSU-1 would require updating and tracking of items such as firefighting pre-plans, dispatch and notification, and communications that would support emergency response to reduce the likelihood of an uncontrolled spread of a wildfire. Specifically, the Emergency Plan for Police Protection would be updated to address the modification to DCPP security once the SNF is transferred to the ISFSI and

the GTCC waste is securely stored at the GTCC Waste Storage Facility. It would also identify the policing agencies' (i.e., CHP, County Sheriff) roles and responsibilities following decommissioning. The current Operational Plan agreement with CAL FIRE/County Fire, in particular, must be modified to address the Project-specific decommissioning risks, such as security of the Project sites during decommissioning. The Transition Plan would provide for transitioning fire protection services from the DCFD to CAL FIRE/County Fire in a manner agreeable to both entities such that the level of service of fire protection or paramedic services would be at a level appropriate for the site post-decommissioning and to adequately provide firefighting or fire suppression services as needed. Recommendations of MM PSU-1 would meet the requirements of the NFPA standards. Updating and implementing the plans and programs would help reduce the potential for accidents to occur while ensuring adequate availability of public safety services throughout decommissioning, and thus avoiding exacerbating wildfire risks. Therefore, the Proposed Project's potential to exacerbate wildfire risks due to slope, prevailing winds, and other factors, or expose workers or residences to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire would be substantially lessened. The impact would be less than significant with mitigation (Class II).

Railyards

Pismo Beach Railyard. The PBR site is located adjacent to Very High FHSZs to the east and west. Infrastructure modification at the PBR site would not increase the risk of wildfire at the site, as activities would be limited to replacing approximately 1,100 feet of track, wood railroad ties, and adding gravel. No new structures would be constructed that would house occupants. Proposed Project activities at the site, if used, would involve storing and shipping non-radiological and non-hazardous waste during Phase 1, which do not pose a risk of wildfire at the facility. Use of the PBR site would not exacerbate wildfire risks, as the facility is developed and paved, and would not expose workers or nearby residences to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire. Therefore, the impact would be less than significant (Class III).

SMVR-SB. The SMVR-SB site is not located within or adjacent to a Moderate, High, or Very High FHSZ (see Figure 4.17-1). Infrastructure modifications at the SMVR-SB site would require refurbishment of existing rail spurs, installation of Class 2 road base, and placement of temporary fencing, lighting, an office trailer, portable toilets, and portable power supply on site. During Phase 1 operations, trucks would transport waste to the SMVR-SB site. Equipment for loading material from trucks to railcars would include an electric gantry crane, truck-mounted cranes, scissor lifts, reach lifts, forklifts, and railcar mover. Refurbishment activities and operation of loading equipment would not increase the risk of wildfire at the site, as the facility is not located within or near a FHSZ and is developed and paved. Workers and nearby residences would not be exposed to pollutant concentrations from a wildfire. Therefore, the impact would be less than significant (Class III).

Phase 2

Phase 2 activities would result in a lower risk of fire at the DCPP site compared to Phase 1 activities, as the majority of structures and buildings would already be removed, new building construction would be completed, and the number of on-site workers would decrease to

approximately 270 and continue to decrease as Phase 2 progresses. Final site restoration activities during Phase 2 would involve essentially the same construction equipment used during Phase 1, but to a lesser extent. The overall intensity of activities at the DCPP site would be less than that of Phase 1, as remaining activities would be limited to soil remediation, final status surveys, demolition of utilities and parking areas, restoration, stormwater management, construction of a blufftop road segment, and restoration monitoring, as opposed to demolition of major buildings and hauling of waste.

Upon completion of Phase 2, the primary fire protection service provider at the DCPP would change from the DCFD to CAL FIRE/County Fire, as outlined in the Decommissioning Operational Plan and the Transition Plan (see MMs PSU-1 and PSU-2). Potential fire- and safety-related incidents that could occur during the transitional period would be identified and addressed in the Decommissioning Operational Plan. The Transition Plan would establish the terms for transitioning fire protection services from the DCFD to CAL FIRE/County Fire to ensure adequate firefighting capabilities post-decommissioning. These plans, combined with PG&E's Wildfire Mitigation Matrix, would substantially lessen the risk of fire during decommissioning activities. Phase 2 would implement MM PSU-1 to ensure that these plans are updated, implemented, and recorded for the County. As discussed under Phase 1, MM PSU-1 would require updating and tracking of items such as firefighting pre-plans, dispatch and notification, and communications that would support emergency response to reduce the likelihood of an uncontrolled spread of a wildfire. Updating the Emergency Plan for Police Protection, the Operational Plan, and the Transition Plan would help reduce the potential for accidents to occur while ensuring adequate availability of public safety services throughout decommissioning, and thus avoiding exacerbating wildfire risks. Phase 2 activities would not expose workers or nearby residences to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire. Therefore, the impact would be less than significant with mitigation (Class II).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. The only staff needed on site would be those required to monitor and protect the ISFSI and GTCC Waste Storage Facility, which would be minimal (not disclosed due to security). Peak staff during ISFSI/GTCC quarterly, annual, and 5-year operations would be less than 50. Post-decommissioning operations would include maintaining defensible space around buildings and access roads in compliance with State and CAL FIRE defensible space requirements. Maintaining defensible space would slow the spread of a potential fire and enhance emergency access and evacuation. Operations and maintenance would not expose workers or residences to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. The impact would be less than significant (Class III).

Future Actions. Marina operations could include boating activities and operation of the ancillary structures, parking lots, and public restroom facility. Although these operations would occur within a High FHSZ, they would not exacerbate wildfire risks, as activities would occur in paved areas and within the coastal area of the DCPP site. Boating activities would not pose a risk of wildfire. The impact would be less than significant (Class III).

Mitigation Measures for Impact WF-2. See Section 4.14 for full text of measures.

PSU-1 Facility Plan Updating, Tracking, and Reporting

PSU-2 Retain the Diablo Canyon Fire Department and Emergency Facilities

Impact WF-3: Exacerbate fire risk or result in temporary or ongoing impacts to the environment due to the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) (Class II: Less Than Significant with Mitigation).

Phase 1

DCPP Project Site

The Proposed Project would remove and modify existing infrastructure and construct new buildings (i.e., new Security Building, GTCC Waste Storage Facility, and Indoor Firing Range) at the DCPP. PG&E has maintained Diablo Canyon Road/Diablo Ocean Drive since the DCPP site has been operational and would continue to maintain it to support decommissioning equipment and traffic. As part of decommissioning, the SE Borrow Site (Figure 2-30) would be used to provide fill material for restoration of the Firing Range. The combined area of disturbance within the Firing Range and SE Borrow Site is approximately 7.2 acres, and the total quantity of earthwork is approximately 198,000 cubic yards (see Section 2.3.16, *Grading and Fill*). The SE Borrow Site would be accessed utilizing the existing Skyview Road and Ranch Road that extend past the 500 kV Switchyard and Waste Storage Buildings to the east, then via an existing dirt road to the SE Borrow Site (PG&E, 2021b – PD-14). The existing road to the SE Borrow Site is 12 feet wide. It would be expanded to a width of approximately 20 feet by adding 4 feet of graded aggregate base/crusher to each side. The temporary width of disturbance would be 34 feet wide; however, no oak trees would be removed. In those areas where oak trees are located, the width of disturbance would be reduced as needed to avoid oak tree removal (see Section 4.3, *Biological Resources – Terrestrial* on reducing disturbance to oak trees*)*; traffic control would be implemented to allow for one-way traffic.

Road expansion and use of the SE Borrow Site and road maintenance activities for Diablo Canyon Road could spark a fire if vehicles or equipment idle along vegetated areas. Some of the anticipated equipment to be used for building and structure demolition, listed in Table 2-11, *Equipment Requirements for Phase 1*, have internal combustion engines that could spark a fire if there is an engine malfunction or if work is performed near combustible materials during high fire hazard conditions. The removal, modification, and installation of infrastructure would pose a fire risk and result in impacts to the environment. However, these risks would not be exacerbated by Project activities. Road maintenance and infrastructure removal activities would follow PG&E's Wildfire Safety Policy as discussed in Impact WF-2.

The Wildfire Safety Policy would prohibit vehicles from driving through combustible areas (i.e., fields or forests) except when performing necessary work or during an emergency. All work vehicles would be required to contain fire suppression equipment such as shovels, McLeod fire tools, or Pulaskis, fire extinguishers, and water delivery systems. Vehicles would be required to

park in areas clear of vegetation with all motors turned off. All workers would be trained on understanding PG&E's Utility Fire Potential Index and Wildfire Mitigation Matrix, which outline allowable and restricted construction activities, tools, and machinery depending on the Fire Potential Index Rating. The types of construction activities and work equipment would be limited or completely restricted as the Fire Potential Index Rating (i.e., fire hazard potential) increases. Implementation of MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) would ensure that the Proposed Project adheres to the Wildfire Safety Policy under the DCPP Fire Protection Program.

Removal of the original power supplies from structures and components before demolition would reduce the risk of injury and fire danger. Cold and Dark Modification would deenergize the majority of the DCPP's electrical system and provide only the necessary power to support decommissioning activities. The existing 12 kV underground distribution system and re-purposing of the existing 230 kV switchyard would include metering, electrical protection, and the DCPP lockout/tagout process, which protects people and equipment during maintenance and testing (see Section 2.3.1, *Cold and Dark Modifications*). The reduction in the connection and use of power supplies would reduce the risk of accidents such as electrical fires.

Decommissioning, demolition, and trucking activities have the potential to increase the risk of wildfire. Although the reactors would no longer operate and would not pose a risk of overheating or fire, and the number of on-site workers would decrease from approximately 1,400 to 870, with the exception of the new Security Building, GTCC Waste Storage Facility, Indoor Firing Range, and Storage Buildings, no major permanent structures or other additional utility infrastructure would be installed that would exacerbate fire risk. Firearm training activities within the proposed Indoor Firing Range would occur exclusively within an indoor space, limiting the potential for combustible materials from being exposed to flammable vegetation at the DCPP. The GTCC Waste Storage Facility would be used to safely store radioactive materials, and no nuclear reactions would occur that would create a fire risk.

Areas requiring grading, site preparation for the facilities, as well as improvements to the SE Borrow Site access road would have vegetation removed consistent with CAL FIRE defensible space requirements, including removal of brush and dead or dying vegetation and debris, which would reduce the risk of igniting dry brush. Implementation of the Wildfire Safety Policy and compliance with its Wildfire Mitigation Matrix, along with MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*), would substantially lessen the risk of accidental wildfire ignition during removal, modification, and maintenance of infrastructure at the DCPP. Implementation of MM BIO-3 (*Implement Oak and Native Mature Tree Protection Measures*) would ensure that oak trees are protected outside of work areas, and any required removal or trimming of oaks is adequately mitigated (see Section 4.3, *Biological Resources*). The impact would be less than significant with mitigation (Class II).

Railyards

Pismo Beach Railyard. The PBR site is located adjacent to Very High FHSZs to the east and west. Infrastructure modifications at the PBR site would be limited to refurbishing existing rail track within the limits of the facility. No new roads, fuel breaks, emergency water sources, power lines, or other utilities would be required. Construction work would be minimal and

temporary and occur within a developed, paved facility. Transport of waste would occur on existing paved roads, and trucks would not park or idle in vegetated areas. Project activities at the PBR site would not exacerbate fire risk or result in temporary or ongoing impacts to the environment due to the installation or maintenance of infrastructure. The impact would be less than significant (Class III).

SMVR-SB. Infrastructure modifications at the SMVR-SB site would be limited to installation of a new approximately 900-foot-long rail spur and placement of temporary aboveground structures. The minor refurbishment of rail infrastructure and placement of temporary aboveground structures would not pose a substantial fire risk, as construction activities would occur within an existing developed facility that is not within or near a FHSZ (see Figure 4.17-1). No new roads, fuel breaks, emergency water sources, power lines, or other utilities would be required at the SMVR-SB site. Transport of waste would occur on existing paved roads, and trucks traveling to the site would not park or idle in vegetated areas. Project activities at the SMVR-SB site would not exacerbate fire risk or result in temporary or ongoing impacts to the environment due to the installation or maintenance of infrastructure. The impact would be less than significant (Class III).

Phase 2

By the time Phase 2 begins, Units 1 and 2 and buildings at the DCPP site would be demolished. New construction including the GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings would be completed. Remaining utilities, structures, and closed roads not required to support the long-term operation of the ISFSI or 230 kV/500 kV switchyards would continue to be demolished throughout Phase 2. In addition, completion of backfill activity at the Discharge Structure and removal of the cofferdam would occur in Phase 2. Infrastructure modifications such as long-term stormwater management would occur. This includes components installed through final restoration grading such as basins, revegetation, and bioswales, as well as construction of a new blufftop road segment.

Installation of these features would not pose a substantial risk of wildfire because activities would be less intensive than in Phase 1. Restoration and monitoring activities would not pose a risk of fire, as scarifying activities would occur on existing roads to be demolished and grading would occur over bare earth. PG&E's Wildfire Safety Policy would prohibit vehicles and equipment from driving through vegetated areas except for required work or an emergency. Vehicles would be required to park in areas clear of vegetation with all motors turned off. Firefighting equipment such as shovels, McLeod fire tools, Pulaskis, fire extinguishers, and water pump/delivery systems would be required on work vehicles to avoid the uncontrolled spread of an accidental fire. MM PSU- 1 (*Plan Updating, Tracking, and Reporting*) would ensure that these recommendations are implemented and adhered to during Phase 2. MM PSU-1 would require updating and tracking of items such as firefighting pre-plans, dispatch and notification, and communications that would support emergency response to avoid exacerbating fire risk during Phase 2 activities. The Transition Plan would provide for transitioning fire protection services from the DCFD to CAL FIRE/County Fire in a manner agreeable to both entities such that the level of service of fire protection or paramedic services would be at a level appropriate for the site post-decommissioning and to adequately provide firefighting or fire suppression services as needed. Recom-

mendations of MM PSU-1 would meet the requirements of the NFPA standards. Updating and implementing the plans and programs would help reduce the potential for accidents to occur while ensuring adequate availability of public safety services throughout decommissioning, and thus avoiding exacerbating wildfire risks. The number of workers and intensity of activities would continue to decrease as Phase 2 progresses, and no new infrastructure would be constructed or maintained. Phase 2 would not exacerbate fire risk or result in temporary or ongoing impacts to the environment due to the installation or maintenance of infrastructure. The impact would be less than significant with mitigation (Class II).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. New facility operations would be limited to protection of the ISFSI and GTCC Waste Storage Facility. Infrastructure such as electrical utilities and access roads not needed during Phase 2 would no longer exist during new facility operations. Therefore, maintenance of such infrastructure would be reduced, and the risk of fire would decrease. Operations would not exacerbate fire risk or result in temporary or ongoing impacts to the environment due to the installation or maintenance of infrastructure. The impact would be less than significant (Class III).

Future Actions. Retained facilities available for use post-decommissioning would include the Marina, the Intake Structure, the Intake Structure's ancillary structures (e.g., Intake Access Facility, Divers Shower/Lab Facility, Intake Control Building, etc.), and boat dock. New infrastructure for future operation of the Marina (following County entitlement approval) could include parking lots, restrooms, a septic system, a boat hoist and access stairs. Operation of these components would not exacerbate fire risks or result in substantial environmental impacts because it would be limited to recreational, educational, or commercial boating or research activities. The Marina is also not expected to support a high-intensity use, as a maximum of 200 people per day is assumed to visit the Marina, and fewer people would deploy boats and other watercraft. The impact would be less than significant (Class III).

Mitigation Measures for Impact WF-3.

BIO-3 Implement Oak and Native Mature Tree Protection Measures. See Section 4.3.

PSU-1 Facility Plan Updating, Tracking, and Reporting. See Section 4.14.

Impact WF-4: 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 (Class II: Less than Significant with Mitigation).

Phase 1

DCPP Project Site

The DCPP site is located in an area that experiences natural periodic wildland fires. The DCPP site has a Mediterranean climate characterized by warm, dry summers, and is surrounded by vegeta-

tion including chaparral, coastal scrub, and oak trees that are highly combustible yet adapted to survive from and propagate as a result of fires. As discussed in Section 4.17.1, *Environmental Setting*, most of the infrastructure at the DCPP site is located on a relatively flat terrace, with some components located on an upper terrace northeast of Units 1 and 2. The DCPP site is surrounded by gradual sloping hills that form the Irish Hills, which are characterized by high-relief topography. Although the hilly topography and dense vegetation surrounding the DCPP site establish favorable conditions for wildfire during the dry season, the DCPP site is not located near other development. The nearest residential communities are in Avila Beach and Los Osos, approximately 7 miles southeast and approximately 8 miles north of the DCPP site, respectively. No other industrial or commercial development is located near the DCPP.

Phase 1 would include various decommissioning activities such as site modifications, building demolition, waste transportation, and grading activities that would modify site drainage characteristics. These activities may be a fire risk due to the presence of equipment, vehicles, and workers that may produce sparks or ignite nearby vegetation through hot exhaust pipes or smoking. Pursuant to MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*) the DCFD would continue to provide on-site firefighting services through Phase 2. Phase 1 activities would follow the Decommissioning Operational Plan as required by MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*), which addresses authorities, training and drills, firefighting pre-plans, the incident command system, dispatch and notification, safety, and support capabilities. Implementing the measures outlined in the Decommissioning Operational Plan would reduce the likelihood of an accidental fire causing post-fire slope instability that could injure on-site workers. MM PSU-1 would ensure that the existing Operational Plan is updated to address decommissioning and implemented and adhered to during Phases 1 and 2. Recommendations of MM PSU-1 would meet the requirements of the NFPA standards. Updating and implementing the plans and programs would help reduce the potential for accidents to occur while ensuring adequate availability of public safety services throughout decommissioning, and thus avoiding exacerbating risks related to post-fire flooding, landslides, slope instability, and drainage changes. Drainage changes due to grading and fill activities would not expose people or structures to risks, as the DCPP site is not located near other development. Furthermore, given the DCPP site's remote location and its structures being located on graded terraces, the Proposed Project would not expose people or structures to downstream flooding, landslides, or post-fire slope instability. Therefore, the impact would be less than significant with mitigation (Class II).

Railyards

Pismo Beach Railyard. The PBR site is primarily located on relatively level topography with elevations ranging from 30 to 100 feet above mean sea level within a narrow valley. Sloping hills surround the site immediately to the east and west, with steeper areas in the western portion of the site along Price Canyon Road. The facility is surrounded by open space and residences to the north, a Union Pacific Railroad line and open space to the east, a wastewater treatment plant and a church to the south, and residences and Judkins Middle School to the west (see Figure 2-3). Open space areas near the site consist of non-native grasslands, roadside ruderal areas, riparian areas, and coast live oak woodland.

Although the PBR site is located adjacent to Very High FHSZs to the east and west, Phase 1 activities would not exacerbate the risk of fire or cause downslope soil instability or downstream flooding. The Proposed Project would not introduce large structures at the PBR site that could contribute to post-fire slope instability. Construction activities would not increase the risk of fire because refurbishment would be limited to replacing approximately 1,100 feet of track, wood railroad ties, and adding gravel. Transporting waste to the PBR site would also not contribute to fire or post-fire landslides, as trucks would travel along developed and paved roads within the existing developed facility. Refurbishment and operation of the PBR site would not expose people or structures to downslope or downstream flooding or landslides, post-fire slope instability, or drainage changes. Therefore, the impact would be less than significant (Class III).

SMVR-SB. The SMVR-SB site is located on flat land with elevations ranging from approximately 152 to 174 feet above mean sea level and is adjacent to agricultural fields and ruderal lands. The flat topography and agricultural and ruderal vegetation surrounding the facility do not pose a high risk of wildfire. As such, Proposed Project activities at the SMVR-SB site would not expose people or structures to risks of downslope or downstream flooding or landslides, post-fire instability, or drainage changes. Therefore, no impact would occur.

Phase 2

By Phase 2, the majority of the buildings and structures at the DCPP site would be removed, new building construction would be completed, and the intensity of decommissioning activities would reduce. The remaining utilities, structures, roads, and parking area would be demolished, and final remediation, restoration, and monitoring activities would occur. As with Phase 1, Phase 2 would continue to implement MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) to ensure that plans and programs are updated for decommissioning and recommendations are implemented, tracked, and verified. Infrastructure modifications such as long-term stormwater management would occur. This may include components such as basins, revegetation, and bioswales, as well as construction of a new blufftop road segment.

Construction of the blufftop road segment and final site contouring and restoration would not increase the risk of wildfire as they would occur near the coastal area of the DCPP site and are not located near sloped areas adjacent to inhabited development. Restoration activities would include regrading former building foundations and roads to a surface level close to existing natural contours. The restored topography would promote natural and unobstructed stormwater infiltration and drainage. The drainage changes would not expose people or structures to risks, as the DCPP site is not located near other development.

The nearest residential communities are in Avila Beach and Los Osos, approximately 7 miles southeast and approximately 8 miles north of the DCPP site, respectively. No additional large permanent structures would be constructed in Phase 2. Phase 2 activities would not increase the risk of wildfire at the DCPP site and would not expose people or structures to downstream flooding, landslides, or post-fire slope instability. Therefore, the impact would be less than significant with mitigation (Class II).

Post-Decommissioning Operations

New Facility Operations. Following Phase 2, activities at the DCPP site associated with the Proposed Project include operation of the new GTCC Waste Storage Facility, Security Building, indoor Firing Range, and Storage Buildings. Activities would be limited to monitoring and protecting the ISFSI and GTCC Waste Storage Facility, and the area would remain minimally developed. No additional buildings or regrading would occur during new facility operations that would expose people or structures to risks of post-fire slope instability or flooding. New facility operations would not expose people or structures to risks of downslope flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes. The impact would be less than significant (Class III).

Future Actions. The Marina would be made available to a third party for permitting and reuse. The Marina, proposed parking lot, and public restroom facility would be located on a relatively flat terrace and would not be located near any other development. Operational activities would include boating for recreational, education, or commercial purposes, which would not cause slope instability or exacerbate wildfire risks, as the area would be paved and adjacent to the Pacific Ocean. Upslope site restoration would stabilize the recontoured surfaces and provide for surface drainage management with infiltration and native vegetation. Operation of the Marina area would not expose people or structures to risks of downslope flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes. The impact would be less than significant (Class III).

Mitigation Measures for Impact WF-4.

PSU-1 Facility Plan Updating, Tracking, and Reporting. See Section 4.14

4.17.5 Cumulative Impact Analysis

Geographic Extent Context

For the purposes of the cumulative impact analysis for wildfire hazards, Table 3-1 lists six projects within the County of San Luis Obispo that are located within an approximately 5-mile radius closest to the DCPP site where there is the potential for impacts related to wildfire to combine with those of the Proposed Project. These applicable cumulative projects are as follows:

Diablo Canyon Power Plant

- Orano System ISFSI Modifications (#1)
- Communications Facility (#2)
- Avila Beach Drive at Highway 101 Interchange (#3)
- Flying Flags Campground (#4)
- Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6)

Pismo Beach Railyard

- U.S. 101 Pismo Congestion Relief Project (#8)

These six projects are likely to occur simultaneously with the Proposed Project and are located in or near High and Very High FHSZs. The cumulative projects located further away than these are

not within High or Very High FHSZs, such that they, as well as offshore projects, do not have the potential for wildfire impacts to combine with those of the Proposed Project.

Cumulative Impact Analysis

Phase 1

The Orano System ISFSI Modifications (#1) would occur on the DCPP site concurrently with Phase 1 activities. This project would require the construction of precast horizontal storage modules (HSMs) off site and preparation of the existing ISFSI pad for the HSMs. The HSMs would be heavy hauled to the existing ISFSI for final installation, which would require an estimated 384 truck trips to occur simultaneously with Phase 1 truck trips. However, Orano System ISFSI Modifications are expected to be short term compared to Phase 1 of the Proposed Project, and truck trips under this cumulative project would not contribute to a cumulatively considerable increase in impacts relating to emergency access. The Communications Facility (#2) is a PG&E project that would be constructed on Diablo Canyon Road. This project would follow Utility Standard TD-1464S, Preventing and Mitigating Fires While Performing PG&E Work, which establishes requirements for PG&E personnel to follow when traveling to, performing work, or operating outdoors in any forest, brush, or grass-covered land. The Avila Beach Drive at Highway 101 Interchange (#3), Flying Flags Campground (#4), Avila Beach Resort Phased Expansion Development Plan/Coastal Development Permit (#6), and U.S. 101 Pismo Congestion Relief Project (#8) would be required to coordinate with CAL FIRE/County Fire and comply with County permit conditions, as well as local, federal, and state laws and policies relating to construction fire safety. Additionally, while these cumulative projects are in High or Very High FHSZs, they are over 5 miles away from the DCPP, SMVR-SM, and SMVR-SB sites, and over 2 miles away from the PBR site. The Proposed Project would not contribute to a cumulatively considerable increase in wildfire risk.

Phase 2

Two of the cumulative projects are expected to be complete by the time Phase 2 begins in 2032. The Avila Beach Drive at Highway 101 Interchange (#3) is anticipated to conclude in 2025 and U.S. 101 Pismo Congestion Relief Project (#8) is anticipated to conclude in 2029 at the latest. Phase 2 of DCPP decommissioning would result in fewer impacts regarding emergency evacuation routes, wildfire risks, and post-fire risks compared to Phase 1, as demolition activities would decrease. With fewer ongoing cumulative projects and a lower level of activity at the DCPP site during Phase 2, the Proposed Project would not contribute to a cumulatively considerable increase in wildfire risk.

Post-Decommissioning Operations

Post-decommissioning operations would not contribute to a cumulatively considerable increase in wildfire risk. Post-decommissioning activities at the revised OCA would be minimal and limited to monitoring and securing the ISFSI and GTCC Waste Storage Facility. Defensible space would also be maintained in the revised OCA in accordance with CAL FIRE/County requirements. Operation of the Marina would not result in substantial wildfire risks, as visitor activities would be confined to paved areas and the Pacific Ocean.

4.17.6 Summary of Significance Findings

Table 4.17-2 presents a summary of the environmental impacts, significance determinations, and mitigation measures for the Proposed Project.

Table 4.17-2. Summary of Impacts and Mitigation Measures – Wildfire

Impact Statement	Impact Significance Class				Mitigation Measures
	Phase 1		Phase 2	Post-Decom	
	DCPP	*PBR/SB*	*DCPP*	*Ops/Marina*	
WF-1: Substantially impair an adopted emergency response plan or emergency evacuation plan	II	II/II	II	II/III	**PSU-1:** Facility Plan Updating, Tracking, and Reporting **PSU-2:** Retain the Diablo Canyon Fire Department and Emergency Facilities **TRA-1:** Truck Transportation Outside of Peak Hours **TRA-2:** Specialty Heavy-Haul Transport Vehicle Transportation Management Plan
WF-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose workers or residences to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire	II	III/III	II	III/III	**PSU-1:** Facility Plan Updating, Tracking, and Reporting **PSU-2:** Retain the Diablo Canyon Fire Department and Emergency Facilities
WF-3: Exacerbate fire risk or result in temporary or ongoing impacts to the environment due to the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities)	II	III/III	II	III/III	**BIO-3:** Implement Oak and Native Mature Tree Protection Measures **PSU-1:** Facility Plan Updating, Tracking, and Reporting
WF-4: 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	II	III/NI	II	III/III	**PSU-1:** Facility Plan Updating, Tracking, and Reporting **PSU-2:** Retain the Diablo Canyon Fire Department and Emergency Facilities
Cumulative Impact	Not cumulatively considerable		Not cumulatively considerable		None required

Acronyms: PBR = Pismo Beach Railyard, SB = Betteravia Industrial Park (Santa Barbara County), Post-Decom = Post-Decommissioning, Ops = Long-Term Operations, Class I = Significant and Unavoidable, Class II = Less than Significant with Mitigation, Class III = Less than Significant, Class IV = Beneficial, NI = No Impact.

5. Alternatives Analysis (Phases 1 and 2)

5.1 Introduction

As noted in Section 1.0, *Introduction*, the County of San Luis Obispo (County), as Lead Agency under CEQA, is preparing this EIR for the Diablo Canyon Power Plant (DCPP) Decommissioning Project (Proposed Project). Section 2.0, *Project Description*, provides detailed information on the proposal by PG&E for the decommissioning of the DCPP, which includes dismantling and removing the two existing nuclear reactors (Units 1 and 2) and much of the supporting infrastructure and restoration of the site per the Final Site Restoration Plan (see Section 2.4.4, *Grading and Landscaping (Final Site Restoration)*). The operational aspects of the DCPP following completion of the Proposed Project or any of the proposed alternatives would be limited to managing spent nuclear fuel (SNF) and Greater Than Class C (GTCC) waste storage, continued operation of the existing 230 and 500 kV switchyards, and associated security.

The State CEQA Guidelines (§15126.6(a)) require the County to "describe a range of reasonable alternatives to the [Proposed Project], or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives." This section describes the screening methodology to identify reasonable alternatives, identifies alternatives eliminated from further consideration, and provides descriptions and impact analyses of each alternative considered. As required in CEQA, Section 5.5.1 identifies the environmentally superior alternative.

5.2 Selection of Alternatives

5.2.1 Guidance on Alternatives Development and Evaluation

The State CEQA Guidelines provide the following guidance for evaluating alternatives.

- An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. An EIR is not required to consider infeasible alternatives. (§15126.6(a))
- The discussion of alternatives shall focus on alternatives to the project or its location which can avoid or substantially lessen any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly. (§15126.6(b))
- In selecting a range of potential reasonable alternatives to the project, the lead agency shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. Among the factors that a lead agency may use to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts. (§15126.6(c))
- The EIR shall 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 shall be discussed, but in less detail than the significant effects of the project as proposed. (§ 15126.6(d))

- The specific alternative of "no project" shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decisionmakers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The "no project" analysis shall discuss the existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved. (§ 15126.6(e)(1) and (e)(2))

5.2.2 Alternatives Screening Methodology

Alternatives to the Proposed Project were identified by the County and by other agencies and the public in comments on the Notice of Preparation. All suggested alternatives were screened, and either retained for further analysis or eliminated as described below. The alternatives screening process consisted of the following steps:

Step 1: Define the alternatives to allow comparative evaluation.

Step 2: Evaluate each alternative using the following criteria:

- The extent to which the alternative could accomplish most of the basic objectives of the Proposed Project (see Section 1.1, *Project Location and Objectives*).
- The potential feasibility of the alternative, considering factors such as site suitability, economic viability, availability of infrastructure, General/Local Coastal Plan consistency, and consistency with other applicable plans and regulatory limitations (CEQA Statute §21061.1 defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors").
- The extent to which the alternative could avoid or lessen one or more of the significant environmental impacts of the Proposed Project.

Step 3: Determine the suitability of the proposed alternative for full analysis in the EIR based on Steps 1 and 2 above. Alternatives considered unsuitable are eliminated, with appropriate justification, from further consideration.

For the screening analysis, the technical and regulatory feasibility of potential alternatives was assessed at a general level. The assessment of feasibility was conducted by using "reverse reason" to identify anything about the alternative that would be infeasible based on technical or regulatory grounds. CEQA does not require elimination of a potential alternative based on cost of construction and operation/maintenance. At the screening stage, potential impacts of the alternatives or the Project cannot be evaluated with any measure of certainty; however, elements of the Project that are likely to be sources of impacts can be identified.

In general, characteristics used to eliminate alternatives from further consideration included:

- Inconsistency with the Project's purpose and need
- Limited effectiveness in reducing environmental impacts

- Permitting feasibility
- Potential for greater adverse effects
- Potential for inconsistency with adopted agency plans and policies
- Feasibility when compared to other alternatives under consideration

Feasible alternatives that did not clearly offer the potential to reduce significant environmental impacts of the Proposed Project and infeasible alternatives were removed from further analysis. In the final screening step, environmental advantages and disadvantages of the remaining alternatives were carefully weighed with respect to their potential for overall environmental advantage, technical feasibility, and consistency with the Proposed Project objectives. Under both the Proposed Project and alternatives, decommissioning of the DCPP would continue to be subject to the regulations and procedures of the US Nuclear Regulatory Commission (NRC) for the decommissioning of nuclear generating stations and management of SNF.

The State CEQA Guidelines require the consideration of a "no project" alternative and to identify, under specific criteria, an "environmentally superior" alternative. If the environmentally superior alternative is determined to be the "no project" alternative, the EIR must identify an environmentally superior alternative among the other alternatives (State CEQA Guidelines §15126.6(e)(2)).

5.2.3 Impacts of Major Concern

Resource areas of particular importance in the consideration of alternatives for this EIR include: (1) Air Quality; (2) Greenhouse Gas (GHG) Emissions; (3) Biological Resources – Terrestrial; (4) Biological Resources – Marine; (5) Cultural Resources – Archaeology and Built Environment; (6) Cultural Resources – Tribal Cultural Resources; (7) Hazardous and Radiological Materials; and (8) Hydrology and Water Quality.

As discussed in Section 4.2, *Air Quality*, implementation of the Proposed Project would result in potentially significant impact under Impact AQ-2 and Impact AQ-3 related to a net increase in criteria air pollutant emissions and exposure of sensitive receptors to substantial pollutant concentrations. Phase 1 activities at the DCPP site would result in criteria air pollutant emissions at rates exceeding the San Luis Obispo County Air Pollution Control District (SLOCAPCD) thresholds of significance for ozone precursors (NOx [oxides of nitrogen] and VOC [volatile organic compounds]). Mitigation Measure (MM) AQ-1 requires PG&E to implement a Decommissioning Activity Management Plan (DAMP) consistent with the approved Project Description. MM AQ-2 requires PG&E to achieve off-site emissions reductions to offset the effects of any Project-related ozone precursor emissions over 2.5 tons/quarter (NOx and VOC combined) prior to initiating Phase 1. With implementation of these mitigation measures, air quality impacts are less than significant. Similarly, as discussed in Section 4.9, *Greenhouse Gas Emissions*, the Proposed Project would result in a potentially significant impact under Impact GHG-1 as both Phase 1 and Phase 2 activities would generate GHG emissions that exceed the SLOAPCD significance threshold. MM GHG-1 could feasibly reduce or offset GHG emissions to a less-than-significant level.

Section 4.2, *Biological Resources – Terrestrial*, analyzes potential direct impacts of the Proposed Project on terrestrial biological resources, such as clearing or trampling of vegetation, loss of breeding sites and habitat, disturbance to wildlife from construction or demolition of structures, and mechanical crushing of animals or their burrows by vehicles or equipment. In addition, indi-

rect biological resource impacts from the Proposed Project could include the disruption of native seed banks, disruption of prey base or increased predation through alterations of the physical landscape from Proposed Project features, increased erosion and degradation of water quality, changes in water runoff due to alterations in topography, noise, and vibration from demolition, and spread of invasive species. Excessive fugitive dust could also displace breeding birds and/or reduce photosynthetic capacity in plants over time and inhibit reproduction by physically coating reproductive structures or excluding insect pollinators. Implementation of MMs BIO-1 through BIO-20, AQ-1, EM-2, HWQ-1, and HWQ-2 would reduce all potential impacts to terrestrial biological resources to a less-than-significant level.

Section 4.3, *Biological Resources – Marine*, discusses the direct and indirect impacts of the Proposed Project on marine resources, specifically associated with the removal of the Discharge Structure, restoration of the Discharge Structure area, closure of the Intake Structure, and operation of the Marina by a third party. Impacts of the Proposed Project on marine biological resources include degradation of marine habitats due to stormwater runoff or other discharges and the potential for the spread of invasive and non-native marine species; and direct impacts such as turbidity, debris accumulation, vessel collision with listed species, and increased underwater noise levels associated with offshore activities. Implementation of MMs MBIO-1 through MBIO-11 and MM HWQ-3 would reduce potential impacts to marine biological resources to the extent feasible; however, due to the uncertainty associated with the success of relocation of black abalone (MMs MBIO-4 and MBIO-5), impacts associated with Discharge Structure removal and restoration activities in Phases 1 and 2 of the Proposed Project (Impacts MBIO-1, 2, and 4) would remain significant and unavoidable.

As discussed in Section 4.4, *Cultural Resources – Archaeology and Built Environment*, the Proposed Project would result in significant and unavoidable impacts to unanticipated buried historical resources, unique archaeological resources, and human remains during Phase 1 and Phase 2, even with implementation of MMs CUL-1 through CUL-10 due to the sensitive nature of the DCPP site, resulting in significant and unavoidable impacts. Similarly for Tribal Cultural Resources, Section 4.6, *Cultural Resources – Tribal Cultural Resources*, concludes that impacts to unanticipated buried tribal cultural resources, even with implementation of MMs CUL-1 through CUL-10, would remain significant and unavoidable for both Phase 1 and Phase 2.

As discussed in Section 4.10, *Hazardous and Radiological Materials*, decommissioning activities could expose site workers and nearby residents to hazardous materials from known or unknown sources and create soil or groundwater contamination from accidental spills or releases of hazardous materials. MMs HAZ-1 through HAZ-3, HWQ-1, and HWQ-2 would reduce impacts to less than significant. Established programs, processes, and procedures would be performed in compliance with NRC requirements, which are designed to limit or eliminate exposure to radioactive materials. These technical and programmatic controls have been proven reliable and effective at numerous reactor decommissioning projects for over 30 years, with no cases of radioactive releases or exposures that exceed NRC and USEPA standards. Due to the risks associated with potential spills or releases of hazardous or radiological materials, an alternative evaluating more stringent remediation requirements (lower than the NRC's 25 mrem per year remediation requirement) was considered but dismissed without full analysis given the safe closure and remediation of plants across the country without any major spills or radioactive releases (see

Section 5.3.6, *Less Than 25 mrem Threshold*). As a result, impacts from radiological materials resulting from the Proposed Project are expected to be less than significant. Decommissioning activities would increase safety and fire hazard concerns for construction-related accidents, hazard spills, and hot work activities such as welding, cutting grinding, and increased combustible loading. To ensure sufficient fire protection services and implementation of wildfire safety measures, MMs PSU-1 and PSU-2 would be implemented, reducing impacts to less than significant. As discussed in Section 4.11, *Hydrology and Water Quality*, the Proposed Project may affect hydrology and water quality during onshore and offshore decommissioning activities if such activities discharge chemicals, debris, or sediment to surface or marine waters, or suspend marine sediment within the offshore area. Implementation of MMs EM-2, HWQ-1, HWQ-2, HWQ-3, MBIO-3, and MBIO-8 would reduce potential impacts related to hydrology and water quality to a level that is less than significant.

5.2.4 Summary of Screening Results

Table 5-1 lists the potential alternatives identified by the County, responsible agencies, and the public through the scoping process. Table 5-1 indicates if the potential alternatives were eliminated from further consideration (see rationale in Section 5.3, *Alternatives Eliminated from Further Consideration*) or evaluated in detail (see Section 5.4, *Alternatives Evaluated in this EIR*).

Table 5-1. Potential Alternatives to the Proposed Project

Alternatives Eliminated from Further Consideration	• Intake Structure Removal • Breakwater Removal • Full Removal of Onshore Subsurface Structures • Partial Discharge Structure Removal • Discharge Structure Leave-in-Place/Bulkhead • Less Than 25 mrem Remediation Threshold • Santa Maria Valley Railyard – Santa Maria (SMVR-SM) Site
Alternatives Evaluated in this EIR	• SAFSTOR Alternative • California State Lands Commission (CSLC) No Project Alternative • Minimum Demolition Alternative • Firing Range Minimum Earthwork Alternative • Firing Range Partial Backfill Alternative • No Waste by Rail Alternative • Delayed Decommissioning • CSLC Full Removal Alternative

Additional comments related to alternatives were brought up during scoping, which are otherwise addressed in the EIR, as follows:

Scoping Comment	Where Addressed in EIR
■ Analyze all feasible alternatives as means of reducing effects to biological resources.	Section 5.4 – Multiple alternatives evaluated in this EIR reduce biological resources impacts.
■ Evaluate rail routes that that may reduce potential risk of exposure to populated areas.	Section 5.4.6 – The No Waste by Rail Alternative eliminates rail use; rail routes are determined by Union Pacific Railroad.

Scoping Comment	Where Addressed in EIR
■ Consider alternative sites for waste disposal should the proposed sites become unavailable and if wastes are stored longer than planned.	Section 2.3.19.3 – Multiple disposal sites are identified for each waste class, except for Class B/C waste where the only available site is Waste Control Specialists in Andrews, Texas.
■ Address the No Project Alternative as a zero-emission alternative.	Section 4.8 – The Proposed Project is analyzed based on a "no net increase" greenhouse gas emissions threshold.
■ Clarify if non-decommissioning alternatives would require new applications and undergo a new process.	Section 1.2.1 – Discusses the DCPP license expiration and retirement.

5.3 Alternatives Eliminated from Further Consideration

Six potential alternatives were identified, reviewed, and eliminated from further consideration. Two of these alternatives involve removal of the Intake Structure and Breakwaters, which are covered under the California State Lands Commission (CSLC) Full Removal Alternative (see Section 5.4.8). These potential alternatives and the rationale for eliminating them from further consideration are discussed below.

5.3.1 Intake Structure Removal

5.3.1.1 Description

This alternative was identified by PG&E in its application to the County. Under this alternative all the same decommissioning/removal activities would occur as described for the Proposed Project; however, instead of only modifying the Intake Structure to load barges for bulk waste transport, the Intake Structure would be completely removed back to the water tunnels and the entrance to the tunnels sealed with a concrete bulkhead. Details for implementing this alternative are described in detail in Section 5.4.8, *Alternative 8: CSLC Full Removal Alternative*. Note that as part of the CPUC 2021 Nuclear Decommissioning Cost Triennial Proceedings, retention of the Intake Structure was identified as a cost savings measure for repurposing of plant facilities, with a decommissioning cost savings of approximately $37.5 million (PG&E, 2021e – Table 6-2).

5.3.1.2 Rationale for Elimination

This alternative would meet the Proposed Project objectives and may partially fulfill the CSLC lease requirements, which require removal of all infrastructure within the CSLC jurisdiction. Additionally, there are no identified feasibility issues associated with this alternative. However, this alternative would result in greater environmental impacts than the Proposed Project, including impacts related to air quality, biological resources, water turbidity, and water quality, due to the additional disturbance to the marine environment. Therefore, this alternative is eliminated from further analysis as a stand-alone alternative to the Proposed Project. Nevertheless, in consideration of the CSLC lease requirements, this alternative has been analyzed in detail as part of the CSLC Full Removal Alternative (see Section 5.4.8).

5.3.2 Breakwater Removal

5.3.2.1 Description

This alternative was identified by PG&E in its application to the County. Under this alternative all the same decommissioning/removal activities would occur as described for the Proposed Project; however, the East and West Breakwaters around the Intake Cove would also be removed, and the marine habitat restored. Details for implementing this alternative are described in detail in Section 5.4.8, *Alternative 8: CSLC Full Removal Alternative*.

5.3.2.2 Rationale for Elimination

This alternative would meet the Proposed Project objectives and may partially fulfill the CSLC lease requirements, which require removal of all infrastructure within the CSLC jurisdiction. Additionally, there are no identified feasibility issues associated with this alternative. However, this alternative would result in greater environmental impacts than the Proposed Project, including impacts related to air quality, biological resources, water turbidity, and water quality, due to the additional disturbance to the marine environment. Therefore, this alternative is eliminated from further analysis as a stand-alone alternative to the Proposed Project. Nevertheless, in consideration of the CSLC lease requirements, this alternative has been analyzed in detail as part of the CSLC Full Removal Alternative (see Section 5.4.8).

5.3.3 Full Removal of Onshore Subsurface Structures

5.3.3.1 Description

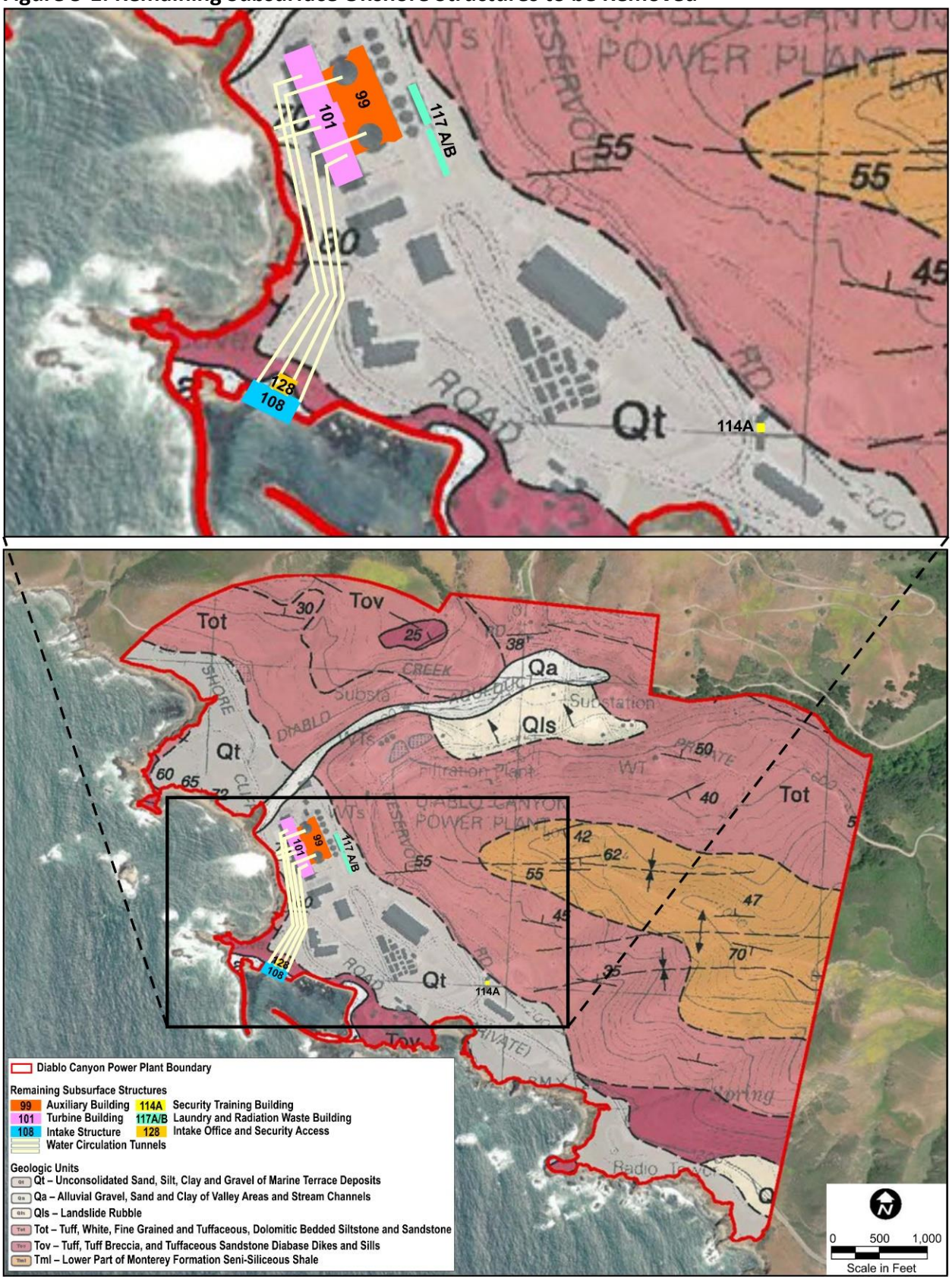
For this alternative greater onshore structure removal would occur than under the Proposed Project, which generally leaves subsurface structures in place 3 feet below the existing adjacent grade with certain contaminated structures removed to greater depths (or completely) and backfilled per NRC regulations. The foundations associated with the following structures are anticipated to remain in place under the Proposed Project and would be removed under this alternative, as shown in Figure 5-1 (ERM, 2023).

- Auxiliary Building (Facility ID 99) would be demolished to the perimeter foundation walls and lowermost floor slabs. Approximately 4,700 cubic yards of concrete associated with the perimeter foundation walls and the lowermost floor slabs at depths varying approximately from 3 feet to 30 feet below existing ground surface per historical records.
- Turbine Building (Facility ID 101) would be demolished to the perimeter foundation walls and lowermost floor slabs. Approximately 11,500 cubic yards of concrete associated with the perimeter foundation walls and the lowermost floor slabs at depths varying approximately from 3 feet to 17 feet below ground surface per historical records.
- The Intake Structure (Facility ID 108) tunnels are located approximately at depths 0 feet to 50 feet below existing ground surface per historical records. The amount of concrete associated with these structures has not been estimated.

- Security Training Building (Facility ID 114A) footings are anticipated to extend 5 feet below existing ground surface based on historical records. Footing elements constructed between 3 and 5 feet below existing ground surface constitute approximately 20 cubic yards of concrete.
- Laundry and Radiation Waste Building (Facility ID 117A/B) footings are anticipated to extend 5 feet below existing ground surface based on historical records. Footing elements constructed between 3 and 5 feet below existing ground surface constitute approximately 240 cubic yards of concrete.
- Intake Office & Security Access (Facility ID 128) footings are anticipated to extend 18 feet below existing ground surface based on historical records. Footing elements constructed between 3 and 18 feet below existing ground surface constitute approximately 2,700 cubic yards of concrete.
- The Water Circulation Tunnels are located approximately at depths 7 feet to 50 feet below existing ground surface per historical records. The amount of concrete associated with these structures has not been estimated.

The estimated volumes of concrete provided do not include the removal of the concrete surfaces as part of the decontamination process, such that the volume of additional concrete removed under this alternative may be less. The extent of additional subsurface structure removals could vary ranging from greater than 3 feet (partial) to full removal. The greatest impacts would be associated with full removal of subsurface structures. All other aspects of this alternative would be identical to the Proposed Project.

Figure 5-1. Remaining Subsurface Onshore Structures to be Removed



Source:Dibble and Minch, 2006 (basemap); ERM, 2023.

5.3.3.2 Rationale for Elimination

This alternative is feasible and consistent with the Proposed Project objectives. Under this alternative, the onshore site would be returned to a more natural condition because it would reduce the amount of underground infrastructure remaining on site in perpetuity. Any contamination would be removed as required by the NRC. Locations where structures are removed to full depth would be disturbed and subject to coastal and surface erosion, particularly near the bluffs. The potential for coastal erosion processes to uncover subsurface structures in the future would be monitored as part of MM GEO-3 (*Monitoring and Reporting of Potential Subsurface Structure Exposure*) and therefore is not considered a significant impact (see Section 4.8, *Geology, Soils, and Coastal Processes*, and Section 7.1, *Climate Change and Sea-Level Rise*). The potential for subsurface structures to be exposed as a result of improper site drainage would be mitigated through implementation of MMs HWQ-1 (*Prepare and Implement Drainage Plans*) and HWQ-2 (*Long-Term Erosion and Sediment Control Plan*).

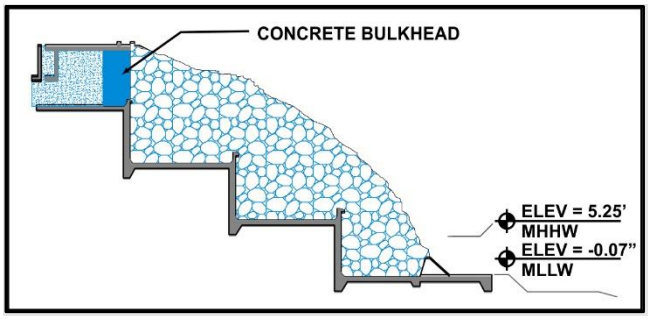
Additional removal of subsurface structures would result in substantially more impacts for many issue areas. Based on currently available information, it is anticipated that the removal of subsurface structures would result in more air and GHG emissions from additional earth movement and increased use of construction equipment, trucks, and barges; greater biological resources impacts due to a longer period of disturbance; greater potential for exposing and impacting potentially sensitive cultural or tribal cultural resources; and greater potential for soil erosion and associated water quality impacts. Additionally, noise associated with off-site trucking would be extended; and there would be an increase in the duration and perhaps intensity of off-site trucking and barging activities due to the additional materials unearthed. Because this alternative would result in extensive additional impacts and does not reduce any of the significant impacts of the Proposed Project, this alternative is eliminated from further analysis.

5.3.4 Partial Discharge Structure Removal

5.3.4.1 Description

This alternative was considered by PG&E and a detailed environmental benefits analysis was completed evaluating all discharge backfill options (full backfill, partial backfill, no backfill). (PG&E, 2022c). Under this alternative all the same decommissioning activities would occur as described for the Proposed Project; however, instead of completely removing the Discharge Structure, the floor and side walls would remain. Various options for backfilling the Discharge Structure area were also considered, including no backfill, partial backfill, or full backfill, as depicted in Figure 5-2 (side walls are not shown to allow the backfill to be shown). Approximately 11,292 1-ton quarry rocks would be required for complete backfill or 1,249 1-ton quarry rocks for partial backfill, requiring up to 13 barge trips or as little as two barge trips, respectively,

Figure 5-2. Partial Discharge Structure Removal with Full Backfill



Source: PG&E, 2021a.

to source the rocks from Santa Catalina Island (PG&E, 2022c). A concrete bulkhead would continue to be placed on the structure as under the Proposed Project; however, it would be located closer to the shoreline as opposed to slightly farther inland where the water tunnels begin.

5.3.4.2 Rationale for Elimination

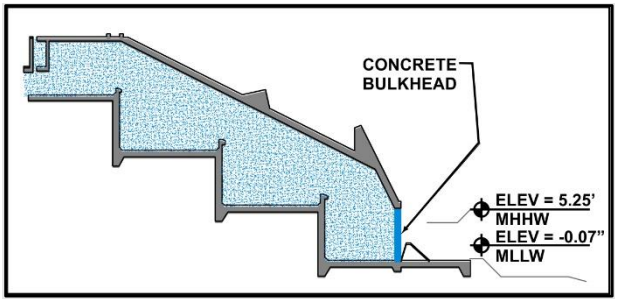
This alternative would generally meet the Proposed Project objectives and would reduce the construction activities necessary for removal of the Discharge Structure, thereby resulting in a minor reduction in air emissions. Regarding the different backfill options, the environmental benefits analysis concluded that full backfill was the most environmentally beneficial as the quarry rock would provide incidental marine and terrestrial habitat, including hiding areas for fish and roosting areas for birds. Backfilling the area also helps to fill the hole left behind that would otherwise result in a noticeable change in the topography of the coastline. However, by leaving elements of the Discharge Structure in place, the industrial nature of the DCPP site and its effects on the natural landscape would persist in perpetuity and would otherwise conflict with California Coastal Commission (CCC) and California State Lands Commission (CSLC) goals of returning the DCPP site to a more natural condition. Additionally, the potential exists that residual radiological contamination could exist the floor and side walls, which could ultimately result in additional removals as necessary to meet the NRC Part 50 facility operating license termination requirements. Due to the unknown level of additional removals, and concerns related to the difficult process of, and costs associated with, tracing the specific areas of radiological contamination that could remain, and the limited environmental benefits of this alternative, it was eliminated from further consideration.

5.3.5 Discharge Structure Leave-in-Place/Bulkhead

5.3.5.1 Description

This alternative was considered by PG&E and an environmental benefits analysis was completed evaluating all discharge backfill options (full backfill, partial backfill, no backfill). Under this alternative all the same decommissioning/removal activities would occur as described for the Proposed Project; however, the entire Discharge Structure would remain, and the main opening (at the lowest elevation) would be closed off with a concrete bulkhead and the interior filled with flowable fill (see Figure 5-3). Similar to the Partial Discharge Structure Removal Alternative (see Section 5.3.4), an additional option was considered to add approximately 462 1-ton quarry rock as backfill to the lowermost portion of the Discharge Structure (not depicted in Figure 5-3), which would require one barge trip to source rocks from Santa Catalina Island (PG&E, 2022c).

Figure 5-3. Discharge Structure Leave-in-Place/ Bulkhead (No Additional Backfill)



Source: PG&E, 2021a.

5.3.5.2 Rationale for Elimination

This alternative would generally meet the Proposed Project objectives and would reduce the amount of construction activities necessary for removal of the Discharge Structure, thereby resulting in a reduction in emissions, even more so than the Partial Discharge Structure Removal alternative (see Section 5.3.4). Regarding the different backfill options, the environmental benefits analysis concluded that the addition of backfill was more environmentally beneficial as the quarry rock would provide some incidental marine habitat, including hiding areas for fish. This alternative avoids creating a large hole within the bluffs, but the industrial nature of the DCPP site and its effects on the natural landscape would persist in perpetuity and would otherwise conflict with CCC and CSLC goals of returning the DCPP site to a more natural condition. The addition of quarry rock would mostly be contained within the structure and therefore would not provide incidental habitat benefits, other than the small portion beyond the bulkhead (not depicted in Figure 5-3).

With leaving the Discharge Structure in place, the potential exists that residual radiological contamination could remain, which could ultimately result in additional removals as necessary to meet the NRC Part 50 facility operating license termination requirements. Due to the unknown level of additional removals, and concerns related to the difficult process of tracing the specific areas of radiological contamination that could remain, which in the end may lead to similar impacts at potentially a higher cost than the Proposed Project, as well as the limited environmental benefits of this alternative, it was eliminated from further consideration.

5.3.6 Less Than 25 mrem Remediation Threshold

5.3.6.1 Description

This alternative considers applying a more stringent, lower radiological threshold than the NRC's 25 millirem per year threshold.

Federal Jurisdiction and Preemption

The Federal government has long occupied the field of nuclear safety regulation and has therefore historically preempted states from enforcing their own separate nuclear safety regulations. In 1954, the United States Congress enacted the Atomic Energy Act of 1954 largely to encourage private corporations to participate in the use, control, and ownership of nuclear energy technology (Justia.com, 2023b, 2023c). When private entities remained reluctant to enter the sector, the 1957 Price-Anderson Act aimed to "remove the economic impediments in order to stimulate the private development of electric energy by nuclear power while simultaneously providing the public compensation in the event of a catastrophic nuclear incident (Burger, 1978)." The Price-Anderson Act was amended in 1966 in an effort to consolidate, coordinate, and expedite any case management associated with the same "extraordinary nuclear occurrence" to provide uniform results (FindLaw, 2018; Cornell Law School, 2023). The 1998 Price-Anderson Amendments Act further applied federal jurisdiction to any action resulting from a nuclear incident (Cornell Law School, 2023).

Prior to 1997, the NRC determined the criteria for release of each nuclear reactor on a site-specific basis. In 1997, the NRC adopted amendments to 10 CFR Parts 20, 30, 40, 50, 51, 70, and

72 regarding the decommissioning of licensed facilities that process or use nuclear resources and remediation of those facilities' lands and structures (NRC, 1997a).[47] The 1997 regulatory changes codified radiological criteria for decommissioning that allow for some site-specific consideration, but established a standard threshold allowing a licensee to terminate its operating license if the total effective dose equivalent (TEDE) for the critical group is less than 25 millirem (mrem) per year. The "critical group" is intended to reflect individuals most likely to face the maximum exposure to radiological doses due to activities conducted by the NRC licensee that is terminating its operating license (NRC, 2002).[48]

The 1997 regulation goes into additional detail about the calculations necessary to determine the "as low as reasonably achievable," or ALARA, target, which is a site-specific calculation related to a cost-benefits analysis evaluating the benefits of attaining a more stringent remediation threshold against the costs of the potential transportation, air quality, and cultural impacts (NRC, 1997a).[49] The NRC specifically found that "In actual situations, it is likely that, even if no specific analysis of ALARA were required for soil and concrete removal, the actual dose will be reduced to below 0.25 mSv/y (or 25 mrem per year) because of the nature of the removal process (NRC, 1997a)."

The NRC and the US Environmental Protection Agency (USEPA) both oversee the remediation of sites that have potential radiological contamination. In 1999, the US House of Representatives Appropriations Committee directed the two federal agencies to adopt a memorandum of understanding to clarify USEPA's involvement at NRC-regulated sites (i.e., nuclear power generation facilities). USEPA has historically contended that, once a site's NRC license has been terminated,

[47] 62 Federal Register No. 139, page 39058-39092 (dated Monday July 21, 1997), especially page 39064, which concludes "… a generic dose constraint or limitation for decommissioning sources of … 25 mrem/y) for unrestricted release of a site is reasonable from the standpoint of providing a sufficient and ample margin of safety for protection of public health." (NRC, 1997a)

[48] *See* NUREG-0586, Supplement 1 Volume 1, page 2-5, footnote (a): The "critical group" is that group of individuals reasonably expected to receive the highest exposure to residual radioactivity within the assumptions of a particular scenario. The average dose to a member of the critical group is represented by the average of the doses for all members of the critical group, which in turn is assumed to represent the most likely exposure situation. For example, when considering whether it is appropriate to "release" a building that has been decontaminated (allow people to work in the building without restrictions), the critical group would be the group of employees that would regularly work in the building. If radiation in the soil is the concern, then the scenario used to represent the maximally exposed individual is that of a resident farmer. The assumptions used for this scenario are prudently conservative and tend to overestimate the potential doses. The added "sensitivity" of certain members of the population, such as pregnant women, infants, children, and any others who may be at higher risk from radiation exposures, are accounted for in the analysis. However, the most sensitive member may not always be the member of the population that receives the highest dose. This is especially true if the most sensitive member (e.g., an infant) does not participate in activities that provide the greatest dose or if they do not eat specific foods that cause the greatest dose. (NRC, 2002)

[49] 62 Federal Register No. 139, page 39060 suggests that ALARA should consider how doses would be quantified, what $ per person-rem value should be assigned, and how non-radiological risks/impacts should be evaluated. (NRC, 1997a)

USEPA's standards should apply to the site (USEPA, 2000).[50] USEPA's guidance for implementing the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) suggests each radiological site should be remediated to 15 mrem per year of potential annual exposure.

In 2002, the NRC and the USEPA signed a Memorandum of Understanding (MOU) agreeing that the NRC has jurisdiction over decommissioning nuclear power plant sites, but in instances where a site may exceed the CERCLA remediation thresholds following decommissioning, the NRC shall seek the USEPA's assistance in reviewing the license termination plan (NRC and USEPA, 2002). USEPA further agreed to only resolve any CERCLA issues that are outside of the NRC's jurisdiction at NRC-licensed site. That includes any chemical or hazardous wastes that may have been used or created at the site, pursuant to the Federal Resource Conservation and Recovery Act (RCRA).

Additionally, the NRC, USEPA, US Department of Energy (DOE), and US Department of Defense (DOD) created a joint Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) in August 2000, which provides information about how to conduct final radiological status surveys (NRC, 2000b). The MARSSIM aims to provide a consistent approach across Federal agencies responsible for overseeing radiological cleanup to ensure an effective use of staff and licensee resources while also meeting federally established criteria for site release and license termination.

Radioactive Doses Defined

According to the NRC, a mrem is a biological dose equivalent, which is measured as 1/1000th of a roentgen equivalent man (rem) and the calculation depends on the quality factor[51] of the type of radiation. The quality factor is used because some types of radiation (such as exposure to alpha particles) are more biologically damaging than others (such as beta and gamma radiation) (NRC, 2021a; USEPA, 2022). The NRC estimates an exposure of 1 (one) mrem is equivalent to the following activities:

a. 3 days of living in Atlanta
b. 2 days of living in Denver
c. 1 year of watching television (~4 hours/day) (on average)
d. 1 year of wearing a watch with a luminous dial
e. 1 coast-to-coast airline flight
f. 1 (one) year living near a normally operating nuclear power plant[52]

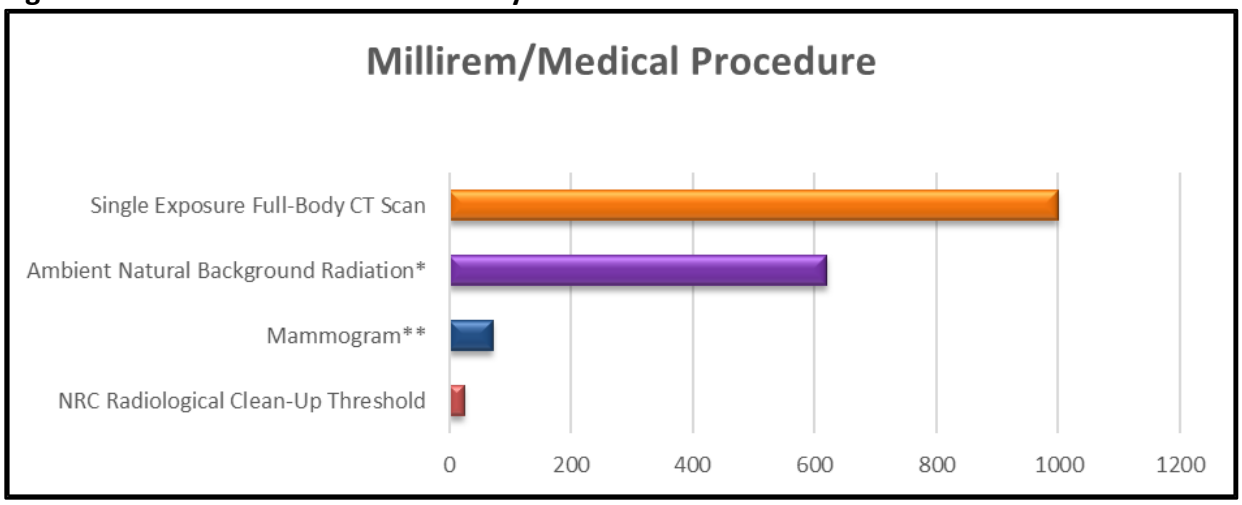
[50] The 1990 revisions to the National Contingency Plan and USEPA guidance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) for cleanups and remedial actions under the Superfund program, is 104 to 106 excess lifetime cancer risk from all radiological and non-radiological carcinogens, which equates to approximately 15 mrem. (USEPA, 2000)

[51] The quality factor is the factor by which the absorbed dose (rad or gray) is to be multiplied to obtain a quantity that expresses, on a common scale for all ionizing radiation, the biological damage (rem or sievert) to an exposed individual. (NRC, 2021a)

[52] This comparison differs from the 25 mrem remediation threshold. Someone living near a normally operating nuclear power plant for one year will have lower radioactive exposure than someone residing on and/or regularly eating/drinking resources from a site that formerly housed an operating nuclear power plant for 40-60 years.

Further, the NRC identifies specific medical procedures as providing significantly higher levels of radiation than the exposures listed above relative to baseline day-to-day living (see Figure 5-4).

Figure 5-4. Radiation Doses in our Daily Lives



Source: NRC, 2022c.

* Ambient Natural Background Radiation includes natural and man-made sources, on average across the U.S., including those from food and nearby industrial processes.

** In the U.S., a typical mammogram requires two images.

Note that these one-time exposures, as illustrated above in Figure 5-4, are related to discrete events that may happen occasionally during an individual's life, whereas the "resident farmer scenario" would relate to a person living on one site, drinking the local water, and eating food grown on the site (24/7). That individual is likely hard to model so these doses are provided to reflect what an individual may face from a one-time medical procedure, compared to the 1 mrem threshold that NRC has estimated as equivalent to living next to an operating nuclear power plant.

Finally, the NRC defines "residual radioactivity" as any radioactivity remaining in structures, material, soils, groundwater, or other media at a site that is directly resulting from activities under the licensee's control. The NRC includes any radioactivity related to licensed and unlicensed sources used by the licensee but excludes any naturally occurring background radiation (NRC, 2021b).

Site Specific Analyses

The NRC requires a decommissioning site to remediate to an unrestricted dose criterion of 25 mrem per year (total) on a generic basis without any site-specific analysis, because that threshold has been found to be safe, regardless of the number of other sources of nuclides. The NRC further suggests that ALARA must be evaluated based on a site-specific cost-benefit analysis, and has found that, in almost all instances, removal of soil and structures to the pre-existing background radiological levels is "generally not cost-effective" (NRC, 1997a).

The NRC notes that sites meeting the 25 mrem per year threshold can be released for unrestricted use and their Part 50 License is terminated. While the agency has additional requirements that could apply to "restricted use" of a site once its license is terminated, that almost

exclusively applies to industrial sites that could continue operating under industrial zoning due to site conditions before and after the license termination.

The decommissioning of PG&E's DCPP involves dismantling and removing the plant's structures from a previously undeveloped stretch of the Central California Coast, and removing radioactive and chemical contamination from the soils and groundwater to levels at which the site can be released for unrestricted use (NRC, 1996). Pursuant to NRC rules, PG&E submitted its Post-Shutdown Decommissioning Activities Report (PSDAR) in December 2019, including a site-specific decommissioning cost estimate and an Irradiated Fuel Management Plan (NRC, 2019a, 2019b, 2020b, 2022a). In October 2021, PG&E notified the NRC of changes to its PSDAR related to the retainment of the Intake Cove and structures associated with it, and modifications to its strategy for transporting radioactive and other waste from the site (PG&E, 2021f).[53] PG&E will be required to submit a license termination plan to demonstrate compliance with federal remediation thresholds prior to its DCPP Part 50 license being terminated by the NRC (NRC, 2021c). The NRC will only approve PG&E's license termination plan if PG&E can prove it will meet the Federal remediation threshold of 25 mrem per year or ALARA, which sets a goal of attaining a remediation level below the Federal requirement, as described above.

Background on 25 mrem threshold. The NRC based its threshold of 25 mrem per year for a site to be released for unrestricted use on studies conducted by the International Commission on Radiation Protection (ICRP) and the National Council on Radiation Protection and Measurements (NCRP). Both agencies established a dose limit of 100 mrem per year as the publicly acceptable level for radioactive exposure other than medical procedures. The ICRP and NCRP also established a cost-based evaluation measure to determine whether a site could achieve additional dose reduction(s).

The NRC's regulations adopting the 25 mrem per year threshold state that it provides "a sufficient and ample margin of safety in protection of public health" when considering that most members of the public – even those living near a decommissioning facility – are unlikely to experience a dose of 100 mrem per year above background radiation (NRC, 1997a).

In a staff document answering questions about the NRC's threshold for license termination, the NRC explained that the 25 mrem per year threshold was adopted because it protects the public from significant dosages related to licensee's operations and allows for safe access to a site once a Part 50 operating license is terminated (NRC, 2000a).[54] Separately, in 62 Fed. Reg No. 139 (July 21, 1997) the NRC cited several international and federal agencies, including the ICRP and NCRP, to find "setting a source constraint of 25-33 percent of the annual dose limit of 1 mSV/y (100 mrem/y) is adequate and a 15 mrem/y dose criterion is overly conservative (NRC, 1997a)." NRC also explained that its threshold differs from USEPA's CERCLA requirement of 15 mrem per year because it is based on the residual radium levels, while the USEPA's radiation dose limit considers

[53] PG&E committed to providing the NRC with an updated PSDAR within six months of filing each Nuclear Decommissioning Cost Triennial Proceeding (NDCTP) with the California Public Utilities Commission, but it has not yet filed an updated PSDAR with the NRC since the December 2021 filing of Application 21-12-007. (PG&E, 2021f)

[54] NUREG-1628 at 37-38. "At the license-termination stage (towards the end of the decommissioning process), the Commission must consider (1) the licensee's plan for assuring that adequate funds will be available for final site release, (2) the radiation-release criteria for license termination, and (3) the adequacy of the plans for the final survey that is required to verify that the release criteria have been met." (NRC, 2000a)

additional contaminants that would affect the acceptable risk to the public assuming a 30-year lifetime exposure from the site, including Cesium-137, Americium-241, Cobalt-60, Iodine, Plutonium, Thorium, and Technecium-99 (USEPA, 2021). Further, the NRC's remediation threshold is based on the exposure an individual living and working on the site all day, every day, for up to 30 years would face if that individual moved onto the site shortly after decommissioning is completed (NRC, 2002).[55] While USEPA requires a more stringent threshold under 40 CFR 190 and 191, its 15 mrem per year requirement adopted under CERCLA remains within both agencies' range of 15-25 mrem per year that is "generally consistent with the risk levels permitted in the performance objectives for… spent fuel and high level waste (NRC, 1997a)."[56]

As Low As Reasonably Achievable (ALARA). 10 CFR § 20.1003 defines "ALARA" as "making every reasonable effort to maintain exposures to radiation as far below the dose limits in this part as is practical consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest." The NRC requires a cost/benefit analysis to be conducted to evaluate the level of remediation to occur at each site, based on site-specific classifications such as cultural, traffic, or air quality impacts associated with incremental site remediation efforts. The NRC has specifically stated that while returning a site to preexisting background conditions is optimal, that threshold may not be reasonable because it "may result in a net detriment or … [the] cost cannot be justified" (NRC, 1997a).

The NRC's Generic Environmental Impact Statement in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Nuclear Facilities (GEIS) describes the impacts and costs associated with reducing dose criteria to the 25 mrem per year and ALARA threshold (NRC, 1997b). Within it, the NRC suggests that $2,000/person-rem be used as the value of considering the costs and/or benefits of regulatory alternatives that may differ from the Federal threshold for terminating a license for a site. The GEIS also notes that site-specific analyses are necessary to fully evaluate the costs of remediation to the ALARA threshold or to confirm that the site meets the Federal remediation threshold of 25 mrem per year, because the costs associated with remediating a site for unrestricted use can be quite high (NRC, 1997b). Determination of remediation levels that are ALARA must also consider detriments associated with achieving a cleaner threshold, such as deaths from potential transportation accidents that could result from

[55] NUREG-0586, states "the scenario used to represent the maximally exposed individual is that of a resident farmer. The assumptions used for this scenario are prudently conservative and tend to overestimate the potential doses." (NRC, 2002)

[56] Footnote 2, p. 39061, notes that "The risks are estimated assuming a risk coefficient of 5×10^{-4} per rem and a 30-year lifetime exposure that is used by USEPA in estimating risk from contaminated sites based on the assumption that it is unlikely that an individual will continue to live or work in the same area for more than 30 years. Such an estimate is seen as providing a conservative estimate of potential risk because land use patterns are generally such that persons living at or near a site will not continuously receive the limiting dose, and, for most of the facilities covered by this rule, the TEDE is controlled by relatively short-lived nuclides of half-lives of 30 years or less for which the effect of radioactive decay will, over time, reduce the risk significantly (e.g., at reactors where much of the contamination is from Co-60) with a half-life of 5.3 years." (NRC, 1997a)

a higher amount of decontamination and waste disposal, and adverse impacts to environmentally or culturally sensitive resources (NRC, 2000a).

Radioactive Doses Compared. For the DCPP site, PG&E proposes to use the "resident farmer" scenario for cleanup, which, as described in Section 1.2.1 above, assumes that an individual is residing on the site after it is released for unrestricted use and spends every day (365 days/year, 24 hours/day) living and working on the site, eating food raised on the site, and drinking groundwater from the site (NRC, 2020a; 1997a).[57] According to the NRC, the assumptions used to analyze the "resident famer" scenario are "'prudently conservative' and tend to overestimate the potential doses (NRC, 2000a)." The NRC also estimates that the 25 mrem per year dose associated with releasing a site for unrestricted use can be compared to the background dose of 300 mrem per year that an average person in the United States is anticipated to experience from naturally existing radiation (NRC, 2000a; 2021b).

Federal regulations suggest individuals at a decommissioned site "will actually be exposed to doses substantially below the [25 mrem per year] constraint level because of ALARA considerations and the nature of the cleanup process itself (NRC, 1997a)." Two nuclear plants in California – Rancho Seco near Sacramento and Humboldt Bay Power Plant near Eureka – had their operating licenses terminated by the NRC after reducing dosage levels to well below 25 mrem per year through site decommissioning processes, including the removal of spent nuclear fuel into a specific, independently licensed site separately regulated under an NRC Part 72 license (i.e., ISFSI), and the otherwise full removal of radioactive soils and materials (NRC, 2022b).[58]

The State's Role in Modifying Cleanup Standards. There have been several instances where a state government body has established requirements for a more stringent remediation threshold, due to some site-specific negotiation that found the benefits of a more thorough remediation outweighed the costs associated with the additional work to meet a more stringent clean-up requirement. In each instance the licensee agreed to the more stringent threshold voluntarily or was required to due to other legal issues related to the decommissioning site (Maine State Legislature, 2000; Cornell Law School, 2018; Massachusetts Department of Public Health, 2022). In most instances these negotiations occurred when the plant's operating license was proposed to be transferred from the operating utility to an unregulated third party for the purposes of decommissioning.

As mentioned, several states (including Maine, Massachusetts, and New York) have required specific decommissioning sites to remediate to a level of 10 mrem per year or less above ambient

[57] Federal Register Vol. 62, No. 139, Monday July 21, 1997 at 39063. "The principal limiting scenarios include: (a) Full time residence and farming at a decommissioned site, (b) exposure while working in a decommissioned building, and (c) renovation of a newly decommissioned building. These principal limiting exposure scenarios are intended to overestimate dose and also tend to be somewhat mutually exclusive (i.e., a person living near a decommissioned nuclear facility would only receive a dose near the constraint level if their living pattern includes full-time residency and farming at the site). This living pattern would make it difficult for the member of this critical group to also be a member of the critical group from other licensed or decommissioned sources." (NRC, 1997a)

[58] Section 72 licenses govern the requirements, procedures, and criteria for the transfer and storage of greater-than class C nuclear waste (such as the reactor structures) and spent nuclear fuel into an independent spent fuel storage installation. (NRC, 2022b)

radiation levels. Those state-established constraints may or may not result in a remediation target below the federal 25 mrem per year threshold if the background radiation[59] at nearby sites is already high due to natural reasons such as native soil or groundwater concentration of radioactive materials (uranium, thorium, and radium) (Justia.com, 2023a). For example, a Maine Department of Environmental Health Scientist told a select Legislative committee focused on the closure of the Maine Yankee Nuclear Plant that the radiological remediation standards are somewhat arbitrary and there was no significant risk difference between the 10 mrem threshold Maine Yankee agreed to and the NRC's 25 mrem per year standard (Maine State Legislature, 1998). To reiterate, the DCPP Part 50 license will not be terminated by the NRC until the licensee(s) can prove the 25 mrem per year or ALARA requirement is met.

A California state agency (for example, the California Coastal Commission, California State Lands Commission, or California Public Utilities Commission) could adopt requirements that PG&E meet a remediation threshold that is less than 25 mrem per year, similar to those adopted in Maine, Massachusetts, and New York. As discussed above, these more stringent thresholds have typically been adopted when a site is being transferred from the utility operator to an unregulated third party that purchases the facility to complete decommissioning, which would require a separate approval process than the current EIR process underway at the County of San Luis Obispo. The agreement for the more stringent thresholds typically requires a negotiation between the permitting agency (or agencies) and the project applicant, which could result in compromises related to other project impacts, such as cultural or environmental resource preservation or traffic and air quality impacts.

5.3.6.2 Rationale for Elimination

As discussed, the NRC's 25 mrem per year remediation requirement is the federally mandated threshold, based on consideration of an on-site, 24/7, 365 days/year resident. While the closest residence to the DCPP site is currently approximately 7 miles away, at some point in the future there may be increased public access and a reuse of the site that involves on-site or nearby residences or frequent visitors that could receive a higher, or at least more consistent, dosage of radiation than those individuals currently residing near the operating plant. For these reasons, some stakeholders have encouraged State policy makers to consider adopting a more stringent remediation requirement (less than 25 mrem per year) to ensure that there are a wide range of reuse options for the DCPP site. To file for termination of its Part 50 licensee, PG&E must conduct a full cost-benefit analysis to determine the remediation threshold that is ALARA based on the activities necessary to decommission the DCPP site. This could include a more stringent remediation threshold (less than 25 mrem per year), if such a requirement is adopted by another state agency during the decommissioning process.

[59] 10 CFR §20.1003 defines background regulation as "radiation from cosmic sources; naturally occurring radioactive material, including radon (except as a decay product of source or special nuclear material); and global fallout as it exists in the environment from the testing of nuclear explosive devices or from past nuclear accidents such as Chernobyl that contribute to background radiation and are not under the control of the licensee." The Federal law specifically notes that background radiation does not include radiation associated with activities controlled by the licensee(s) of the decommissioning site.

Given the need for a State action that has not been undertaken and is therefore speculative, the stringency of federal regulations, the NRC's requirements for the site to comply with ALARA, PG&Es proposal to use the resident farmer scenario for site clean-up, the safe closure and remediation of plants across the country, and the increased impacts associated with removal of additional material from the DCPP site to reach a more stringent threshold, this alternative was eliminated from further consideration.

5.4 Alternatives Evaluated in this EIR

Eight alternatives are evaluated in this section, including two versions of the No Project Alternative. The two No Project Alternatives include one leaving the site in the NRC's SAFSTOR condition delaying decommissioning (see Section 5.4.1) and the other where permit approvals required to initiate the Proposed Project are not approved by the CSLC (see Section 5.4.2). Two alternatives consider minimizing the amount of infrastructure removed throughout the DCPP site (see Section 5.4.3) to the other extreme of complete removal of everything within the CSLC jurisdiction per the existing lease requirements (see Section 5.4.8). Two alternatives relate to restoration of the Firing Range and the level of earthwork and on-site cut/fill that would be needed (see Sections 5.4.4 and 5.4.5). Additional alternatives eliminate transport of waste by rail (see Section 5.4.6) and assess a delayed decommissioning scenario (see Section 5.4.7).

The CSLC Full Removal Alternative (see Section 5.4.8) is examined in greater detail than the other alternatives because it represents the existing CSLC lease requirements (PRC 9347.1) and therefore the fullest exercise of the CSLC's discretion regarding the end-state disposition of infrastructure within the CSLC's jurisdiction. As noted in Section 1, *Introduction*, the CSLC is a responsible agency in the CEQA process and is working with the County on the evaluation of the Proposed Project. The other alternatives are evaluated at a lesser level of detail, but with sufficient information to allow meaningful evaluation, analysis, and comparison to the Proposed Project, consistent with CEQA's requirements (State CEQA Guidelines, §15126.6, subd. (d)).

5.4.1 Alternative 1: SAFSTOR Alternative

5.4.1.1 Alternative 1 Description

Pursuant to State CEQA Guidelines section 15126.6(e), the purpose of describing and analyzing a "no project" alternative is to provide decision makers with comparative information regarding the impacts of approving a project versus not approving a project. The "no project" alternative considers existing environmental conditions as well as what would reasonably be expected to occur in the foreseeable future if the permits and leases associated with the Proposed Project are not approved. Under the SAFSTOR Alternative, DCPP would be

Figure 5-5. Rancho Seco Nuclear Generation Station SAFSTOR Condition

placed in a safe, stable storage condition (referred to as SAFSTOR), and decommissioning of the DCPP and associated use of the railyards would be completed within 60 years as required under NRC regulations and associated guidance.

Under SAFSTOR mode, after the DCPP is shut down and defueled, the facility would be placed in a safe, stable condition and maintained in that state. The facility would be decontaminated and dismantled at the end of the SAFSTOR period. During SAFSTOR, the facility would be left intact, or may be partially dismantled, but the SNF would be removed from the reactor vessels, and radioactive liquids drained from systems and components and then processed. SNF would continue to be transferred from the Spent Fuel Pools to the ISFSI under this alternative (see Section 1.2.2, *ISFSI Approval and Cask Design*).

As examples of SAFSTOR, this approach to decommissioning was implemented at the Rancho Seco Nuclear Generating Station (see Figure 5-5) and the Humboldt Bay Power Plant. Rancho Seco ceased operating in 1989. However, incremental decommissioning did not begin until 1999. In addition, the Humboldt Bay Power Plant nuclear unit ceased operating in 1976 and decommissioning did not begin until 2009. Radioactive decay would occur during the SAFSTOR period, thereby reducing the quantity of contamination and radioactivity that must be disposed of during decontamination and dismantlement. This alternative would result in delaying the decommissioning activities, potentially by decades, but decommissioning activities as described for the Proposed Project would ultimately occur (San Luis Obispo, 2021) within the 60-year period specified by NRC regulations.

5.4.1.2 Environmental Impact Analysis

The impacts of the SAFSTOR Alternative compared to the Proposed Project are described below.

Aesthetics

Under the SAFSTOR Alternative, the location and types of decommissioning activities that would occur at the DCPP and railyard sites would be the same as described for the Proposed Project. Potential impacts to a scenic vista (Impact AES-1) and impacts to the visual character or quality of the sites (Impact AES-3) would remain less than significant, and damage to sensitive scenic resources (Impact AES-2) would remain no impact. Impacts from nighttime lighting at railyard sites (Impact AES-4) would be expected to be the same as the Proposed Project (i.e., Class II), and would require mitigation to control any temporary or permanent lighting.

Air Quality

Criteria air pollutant emissions from this alternative would likely be lower than those from the Proposed Project due to improved fuel standards for vehicles and off-road heavy-duty equipment over time. While the majority of the SAFSTOR alternative would be similar to the Proposed Project, since it would happen decades in the future, it can be assumed that the vehicles and equipment used would be technologically improved and have less emissions. Additionally, due to radioactive decay, there may be slightly less radioactive waste to dispose of with the SAFSTOR Alternative. This could potentially decrease transportation emissions, including emissions associated with railroad operations, as some waste would not need to travel as far for hazardous disposal, although all would still be transported out of state per Executive Order D-62-02.

Like the Proposed Project, the unmitigated emissions would be significant, and MM AQ-1 (*Implement a Decommissioning Activity Management Plan*) and MM AQ-2 (*Provide Funding for Off-site Mitigation of Equipment Emissions*) would be required to reduce ozone precursor and PM10 emissions (Impacts AQ-2 and AQ-3) to levels that would be less than significant.

The SAFSTOR Alternative, like the Proposed Project would have less-than-significant impacts related to local air quality plan conformity (Impact AQ-1) and odor impacts (Impact AQ-4).

Biological Resources – Terrestrial

The SAFSTOR Alternative would only delay decommissioning activities, but ultimately the same activities described for the Proposed Project would occur. While the exact vegetation communities, special-status species, sensitive habitat designations, and other terrestrial biological resources may change at the DCPP site and railyards during the up to 60-year delay that could occur under this alternative, the types of impacts (Impacts BIO-1 through BIO-9) would remain the same as those described under the Proposed Project. It is assumed that any local policies or ordinances protecting terrestrial biological resources or any broader conservation plans (Impacts BIO-10 and BIO-11) would be similar to those currently applicable to the Proposed Project. PG&E would implement the same mitigation measures described for the Proposed Project to ensure that impacts are reduced to less than significant under this alternative.

Biological Resources – Marine

This alternative would result in delaying the decommissioning activities, potentially by decades, but decommissioning activities as described for the Proposed Project would ultimately occur within the 60-year period specified by NRC regulations. Therefore, impacts to marine biological resources at the DCPP site from this alternative would be similar to those described for Impacts MBIO-1 through MBIO-5 from activities that were identified to have potential marine biological impacts (e.g., Waste Transportation, Discharge Structure Removal and Restoration, Water Management, Intake Structure Closure, and Marina Reuse). However, the delay in decommissioning by decades may provide an opportunity to further study and determine successful relocation methods for black abalone thereby reducing the uncertainty associated with relocation of black abalone. As such, it is possible that the time delay may better ensure the proposed mitigation measures (MM MBIO-4 and MBIO-5) reduce impacts potentially to a less-than-significant level, although this is speculative at this time.

Cultural Resources – Archaeology

The SAFSTOR Alternative would only delay decommissioning activities, but ultimately decommissioning activities as described for the Proposed Project would occur. This alternative would require the same level of ground disturbance as the Proposed Project, resulting in the same potential to encounter unknown buried cultural resources at the DCPP site that could be evaluated as significant; and the same potential to affect a known cultural resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area. Like the Proposed Project, no impacts would occur at the railyard sites.

Mitigation measures, which have been identified for the Proposed Project, include MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project*

Archaeological Monitors), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas for Marina Operations*), and MM CUL-12 (*Discovery of Human Remains*). These measures would lessen the overall impact, but not to a less-than-significant level. Therefore, impacts to historical resources (Impact CUL-1), unique archaeological resources (Impact CUL-2), and human remains (Impact CUL-3) would remain significant and unavoidable like the Proposed Project.

Cultural Resources – Built Environment

The DCPP site was evaluated as a whole, as well as individual buildings 50 years or older (see Appendix F), and it was found that neither the DCPP site nor individual buildings were eligible as historic-age resources. As such, even if additional facilities were to be over 50 years old at the time of removal under the SAFSTOR Alternative, it would not change the eligibility of DCPP. Therefore, with no designated or eligible historic-age resources within the Proposed Project sites (DCPP and railyards), the SAFSTOR alternative would result in no impacts to built environment resources (Impact CUL-1), which is the same as the Proposed Project.

Cultural Resources – Tribal Cultural Resources

The SAFSTOR Alternative would only delay decommissioning activities, but ultimately decommissioning activities as described for the Proposed Project would occur. This alternative would require the same level of ground disturbance as the Proposed Project, resulting in the same potential to encounter unknown buried cultural resources at the DCPP site that could be considered Tribal Cultural Resources and could be evaluated as significant; and the same potential to affect a known Tribal Cultural Resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area. Like the Proposed Project, no impacts would occur at the railyard sites.

MMs CUL-1 through CUL-12 would lessen the overall impact, however, not to a less-than-significant level. Therefore, impacts to Tribal Cultural Resources (Impact TCR-1) would remain significant and unavoidable like the Proposed Project.

Energy

The SAFSTOR Alternative, like the Proposed Project, would have less-than-significant impacts related to wasteful, inefficient, or unnecessary consumption of energy sources (Impact EN-1), and would have less-than-significant impacts regarding confliction with State or local plans for renewable energy and energy efficiency (Impact EN-2). Diesel fuel would still be consumed when decommissioning takes place, but currently there are no alternative methods for disposing decommissioning debris that would consume less energy. The SAFSTOR Alternative would likely have lower impacts to energy usage, as equipment and transportation would likely be more efficient in the future when the site is decommissioned.

Geology, Soils, Paleontological Resources, and Coastal Processes

Impacts to geology and soils under the SAFSTOR Alternative would not differ from the Proposed Project (Impact GEO-1). MM GEO-1 (*Geologic Hazard Assessment and Geotechnical Investigation*) and MM GEO-2 (*Seismic Hazard and Coastal Processes Assessment of Discharge Structure*) identified for the Proposed Project would reduce impacts at the DCPP site from this alternative to less than significant. Like the Proposed Project, impacts at the railyards would be less than significant.

Impacts associated with erosion under this alternative would be greater compared to the Proposed Project (Impact GEO-2), as DCPP facilities, drains, and slopes would remain in place for a longer period of time requiring greater oversight and maintenance. Implementation of the site-specific Stormwater Pollution Prevention Plan (SWPPP) and Construction General Permit (CGP) (ACs BIO-3 and WQ-1) as part of the Project would help to control erosion, although additional erosion control measures for maintenance and repair at the DCPP site may be required due to the prolonged decommissioning schedule. MM HWQ-1 (*Prepare and Implement Drainage Plans*) and MM HWQ-2 (*Long-Term Erosion and Sediment Control Plan*) would ensure impacts are reduced to a less-than-significant level. Like the Proposed Project, impacts at the railyards would be less than significant.

Impacts to paleontological resources with this alternative would not differ from the Proposed Project (Impact GEO-3) and impacts would be less than significant. Impacts related to having soils incapable of adequately supporting the use of septic tanks would not differ from the Proposed Project and impacts would be less than significant (Impact GEO-4).

Although decommissioning would be delayed under the SAFSTOR Alternative, decommissioning activities would occur as described for the Proposed Project within the 60-year period specified by NRC regulations. As such, activities within the Intake/Discharge Areas and Marina would eventually occur within 60 years. Future sea level rise within this period may expose workers in the coastal area at the DCPP site to hazards such as larger wave heights and blufftop erosion. As noted in Table 7-1, Projected Sea-Level Rise (in Feet) for Port San Luis, the extreme risk aversion (conservative) projected sea level in 2080 is estimated to be 6.4 feet, putting the Discharge Structure, Intake Structure, and Marina areas at the greatest risk of coastal flooding from wave runup. Per the CCC CDP A-3-SLO-04-035 for the existing ISFSI, annual surveys of the shoreline nearest the ISFSI transport road and Soil Disposal Site #2 are to be conducted through the life of the ISFSI by a licensed Surveyor or Civil Engineer (CCC, 2004). A site stability evaluation report must be prepared and submitted by a California Certified Engineering Geologist based upon an on-site evaluation that indicates that the bluff setback is adequate to allow for bluff erosion over the 75-year period (CCC, 2004). As such, impacts related to coastal processes would be less than significant. Impacts related to coastal processes for the SMVR-SB or PBR sites would be the same as the Proposed Project as these sites are located in more inland areas.

Greenhouse Gas Emissions

As noted for the air quality analysis, GHG emissions from this alternative would likely be lower than those from the Proposed Project due to improved fuel standards for vehicles and off-road heavy-duty equipment, as well as technological improvements leading to lower emissions.

Additionally, due to radioactive decay, there may be slightly less radioactive waste to dispose of with the SAFSTOR Alternative, which may decrease transportation emissions as some waste would not need to travel as far for hazardous disposal.

Like the Proposed Project, the unmitigated emissions would be significant, and MM GHG-1 (*Reduce GHG Emissions or Surrender Offset Credits*) would be required to reduce the effects of GHG emissions to a level that would not result in a significant impact on the environment (Impact GHG-1). The SAFSTOR Alternative, like the Proposed Project would not conflict with GHG emission reduction plans, policies, or regulations (Impact GHG-2).

Hazardous and Radiological Materials

Impacts from non-radiological hazardous waste under Alternative 1 would be similar to those under the Proposed Project (Impacts HAZ-1 through HAZ-6), but slightly less due to the reduced volume of waste generated limiting exposure. With MM HAZ-1 (*Facility Hazardous Waste Permit Extension*), MM HAZ-2 (*Worker Registration/ Certification*) and MM HAZ-3 (*Soil and Groundwater Site Characterization Work Plan*), and MM HWQ-1 (*Long-Term Erosion and Sediment Control Plan*) and MM HWQ-2 (*Clean Marina Provisions*), non-radiological hazardous material impacts under this alternative would be less than significant. The potential to trigger a wildland fire (Impact HAZ-7) would be reduced compared to the Proposed Project as there would be less potential for construction-related accidents and less hot work activities. As with the Proposed Project, MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) and MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*) would reduce the impact to less than significant.

A delay of up to 60 years would allow for greater radiological decay thereby providing for a slight reduction in potential radiological exposure during decommissioning activities; however, exposure is highly regulated by the NRC such that impacts would be identical to the Proposed Project. At the end of decommissioning, the applicable NRC and USEPA standards relative to radiological materials, and radiation exposures to workers and the public through all media, would be identical to the Proposed Project. Therefore, radiological impacts under this alternative (Impacts HAZ-8 through HAZ-12) would be like the Proposed Project and less than significant.

Hydrology and Water Quality

Decommissioning activities as described for the Proposed Project would ultimately occur under the SAFSTOR Alternative. Therefore, impacts related to water quality, water supply, soil erosion and sedimentation, and flood inundation would be the same as the Proposed Project, requiring the same soil and water management plans and mitigation measures to reduce impacts to less than significant.

Land Use and Planning

Decommissioning activities under the SAFSTOR Alternative would be identical to the Proposed Project. While the exact land uses located along the transport routes may change during the 60-year delay under this alternative, the types of impacts that could occur to public and private land uses would remain the same. Transport activities under the SAFSTOR Alternative could temporarily limit public access along the proposed routes in a manner that is similar to the Proposed

Project. As discussed for the Proposed Project, MM TRA-1 (*Truck Transportation Outside of Peak* Hours), TRA-2 (*Specialty Heavy Haul Transport Vehicle Transportation Management Plan*), TRA-3 (*Decommissioning* Liaison), TRA-4 (*Advance Notification of* Decommissioning), TRA-5 (*Quarterly Decommissioning Updates*) would be implemented to minimize land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle Transportation Management Plan (TMP), and ongoing notifications to affected land uses. There would be no new impacts associated with disruptions or displacement of land uses under this alternative that would require additional mitigation. Impact LUP-1 would remain less than significant with mitigation.

Under the SAFSTOR Alternative, activities at the DCPP and railyards would remain the same, and activities would not extend into agricultural lands. This alternative would not affect agricultural lands or convert surrounding agricultural uses.

Noise

If partial dismantling occurs during the SAFSTOR period, temporary construction noise and vibration levels for onshore decommissioning at the DCPP site and railyard sites would be identical or less than those discussed in Impacts NOI-1 through NOI-3 for the Proposed Project. Offshore activities associated with the decommissioning are not expected to occur during the SAFSTOR period, thereby avoiding temporary noise associated with those decommissioning activities including underwater noise (see *Biological Resources – Marine*). However, ultimately full decommissioning would occur. Over the next 60 years more development in the surrounding communities of the DCPP site and railyard sites may occur such that more sensitive receptors could be affected. As such, noise and vibration impacts are expected to be the same or possibly greater than the Proposed Project under this alternative.

Public Services and Utilities

Although the SAFSTOR Alternative would delay decommissioning activities, decommissioning activities as described for the Proposed Project would ultimately occur. Therefore, this alternative would require the same number of workers and the same need for fire and emergency response. Impacts relating to the relocation or construction of utility systems, water resources, wastewater capacity, solid waste generation, and solid waste regulations would remain less than significant. Impacts relating to emergency services would be reduced to less than significant with MMs PSU-1 (*Facility Plan Updating, Tracking, and Reporting*), PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*), CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), TRA-1 (*Truck Transportation Outside of Peak Hours*), and TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*). Impacts of MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*) would remain the same as the Proposed Project.

Recreation and Public Access

Under the SAFSTOR Alternative, activities outside of the Project site that could temporarily interfere with recreational access and safety, such as trucking and equipment transport, would not occur, unless partial dismantling occurs, for the next approximately 60 years. However, at

the end of the SAFSTOR period (approximately 60 years), decommissioning activities would ultimately occur that could have the same temporary impacts to public access and recreation as the Proposed Project if Avila Beach Drive is still used as the main route for trucking. However, over the next 60 years, there could be a higher population of residents affected by road and lane closures associated with decommissioning. This could result in additional access impacts associated with decommissioning under this alternative, compared to those discussed in Impact REC-1. However, with implementation of MM REC-1 (*Commercial Fishing Operations Access Plan for Avila Beach Drive*), along with MM EM-2 (*Project Plan, Updating, Tracking, and Reporting*), and MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of* Decommissioning), MM TRA-5 (*Quarterly Decommissioning* Updates), and MM TRA-7 (*Coordination with Harbor Masters*), impacts would be less than significant with mitigation related to permanent, temporary or intermittent roadway, parking, or trail closures (Impact REC-1); access to the coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways (Impact REC-2); and exposure of recreational users to hazards (Impact REC-4), which is the same as the Proposed Project. Impacts would be less than significant related to the increased use or construction or expansion of recreational facilities (Impact REC-3), which is also the same as the Proposed Project.

Transportation

Ground Transportation. Under this alternative, the DCPP facility would remain largely intact during the period of SAFSTOR inactivity. There would be a reduced amount of material needed for transport to and from the site; thus, fewer truck trips would be required. Additionally, the decrease in employees would result in a reduction in vehicle miles traveled (VMT) compared to the Proposed Project, and no impact would occur (Impact TRA-1).

Although this alternative would delay decommissioning activities, decommissioning of the DCPP would ultimately occur. Impacts related to incompatible uses (Impact TRA-2) would be the same as the Proposed Project and mitigated with MM TRA-1 (*Truck Transportation Outside of Peak Hours*). Access to the site and reduction of the existing Owner Controlled Area in Phase 2 would eventually occur and include the construction of the blufftop road. Therefore, impacts related to inadequate emergency access would be the same as the Proposed Project (Impact TRA-3) and MM TRA-1, MM TRA-2 *(Specialty Heavy-Haul Transport Vehicle Transportation Management Plan),* MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*) and MM TRA-6 (*Diablo Creek Crossing Structure Inspection and Repair*) would reduce impacts to less than significant.

Marine Transportation. Similar to the Proposed Project, this alternative would also require barge trips for the export of waste (up to 28 round trips, where each tug pulls two barges for a total of 55 barges, over a four-year timeframe during Period 1B [2030-2033]); the transport of gravel from the Port of Long Beach to fill the Discharge Structure cofferdam (up to 15 round trips during Period 1A [2024-2029]); and the transport of quarry rock sourced from the Connolly-Pacific Co. Quarry on Santa Catalina Island to fill the void left in the bluff following removal of the Discharge Structure (three round trips during Period 1B [2030-2033]). The number of barge trips would be

the same under both the Proposed Project and this alternative. Therefore, under this alternative, offshore marine transportation impacts related to marine vessel safety would be the same as the Proposed Project and would be less than significant with implementation of MM TRA-7 (*Coordination with Harbormasters*) and MM TRA-8 (*Marine Surveyor Assessment*) (Impact TRA-4). Like the Proposed Project, barge transport associated with this alternative would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

Wildfire

Under this alternative, decommissioning activities would be identical to the Proposed Project. The same number of workers and truck trips would eventually be needed; thus, impacts to emergency response and evacuation (Impact WF-1) would require mitigation to prevent impairing emergency response and access. This alternative would have less-than-significant impacts on exacerbating wildfire risks due to physical factors (Impact WF-2) and infrastructure (Impact WF-3), as the physical conditions of the DCPP site and railyards are assumed to remain similar to the Proposed Project in the next 60 years. The SAFSTOR Alternative would not expose people or structures to substantial downslope or post-fire slope instability hazards, as the topography of the DCPP site and railyard would not substantially change within the next 60 years. Impact WF-4 would remain less than significant.

5.4.2 Alternative 2: CSLC No Project Alternative

5.4.2.1 Alternative 2 Description

Under the CSLC No Project Alternative, a new or amended CSLC lease for the Proposed Project would not be approved and the existing CSLC lease PRC 9347.1 for the facilities within the CSLC jurisdiction (see Figure 1-4) would expire on August 26, 2025, simultaneous to the expiration of the NRC license for the Unit 2 reactor. The Discharge Structure, Intake Structure, Breakwaters, Marina (includes the boat dock and rip rap along the shore of the Marina), storage facilities, office facilities, intake electrical room, intake maintenance shop, equipment storage pad, and spare tribar storage facilities, which lie within the CSLC jurisdiction, would not be dismantled and would remain in their current position and configuration. This alternative assumes the NRC radiological contamination threshold is met in these areas. PG&E would retain responsibility for the structures under a new agreement with the CSLC. Other onshore decommissioning activities outside of the CSLC jurisdiction would continue as described for the Proposed Project under this alternative. These other onshore decommissioning activities are allowed under the operating license for reactor Units 1 and 2 granted by the NRC.

5.4.2.2 Environmental Impact Analysis

The impacts of the CSLC No Project Alternative compared to the Proposed Project are described below.

Aesthetics

As the location and types of activities occurring under the CSLC No Project Alternative would be the same as the Proposed Project, potential impacts at the DCPP site and railyards to a scenic vista (Impact AES-1) would remain less than significant, and potential impacts to a scenic resource

(Impact AES-2) would not occur. For Impact AES-3, the visual quality of the DCPP site would improve from existing conditions, but to a lesser extent than the Proposed Project, as structures within the CSLC jurisdiction would remain intact. Impacts from nighttime lighting at railyard sites (Impact AES-4) would be the same as the Proposed Project (i.e., Class II), and would require mitigation to control any temporary or permanent lighting. This alternative would possibly have a shorter duration of waste transport activities due to the removal of less structures within the DCPP, but the need for mitigation to address nighttime lighting impacts would remain the same as the Proposed Project.

Air Quality

Criteria air pollutant emissions from this alternative would be lower than those from the Proposed Project as there would be fewer structures demolished and less material hauled to and from the DCPP site. With implementation of MM AQ-1 (*Implement a Decommissioning Activity Management Plan*) and MM AQ-2 (*Provide Funding for Off-site Mitigation of Equipment Emissions*) the CSLC No Project Alternative would have less-than-significant impacts related to net increases of criteria air pollutants for which the area is in non-attainment (Impact AQ-2) and impacts on sensitive receptors (Impact AQ-3). This alternative, like the Proposed Project would have less-than-significant impacts related to local air quality plan conformity (Impact AQ-1) and odor impacts (Impact AQ-4).

Biological Resources – Terrestrial

Under the CSLC No Project Alternative, impacts associated with the permanent and temporary loss of native vegetation (Impact BIO-1) and Environmentally Sensitive Habitat Areas (ESHAs) (Impact BIO-7) that supports ocean bluff milk-vetch, a special-status plant, would be slightly less severe since the Discharge Structure would be left intact and coastal bluff scrub vegetation immediately adjacent to the structure would not be temporarily removed. Impacts to nesting birds (Impact BIO-4) and special-status bats (Impact BIO-6) that could potentially use structures within CSLC jurisdiction for nesting or roosting would also be slightly less severe since these structures would not be removed. PG&E would implement the same mitigation measures described for the Proposed Project to ensure that impacts are reduced to less than significant under this alternative.

Biological Resources – Marine

Under the CSLC No Project Alternative, the Discharge Structure, Intake Structure, Breakwaters, Marina (includes the boat dock and rip rap along the shore of the Marina), storage facility, office facilities, intake electrical room, intake maintenance shop, equipment storage pad, and spare tribar storage facilities would not be dismantled and would remain in their current position and configuration. As such, this alternative would have no impacts to marine biological resources and therefore would have fewer impacts compared to the Proposed Project.

Cultural Resources – Archaeology

The CSLC No Project Alternative decommissioning activities outside of the CSLC jurisdiction would continue as described for the Proposed Project. While ground disturbance under this alternative would decrease, this alternative would require the same level of ground disturbance as the

Proposed Project outside of CSLC jurisdiction, resulting in the same potential in the remaining portion of the Proposed Project site to encounter unknown buried cultural resources at the DCPP site that could be evaluated as significant; and the same potential to affect a known cultural resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area. Like the Proposed Project, no impacts would occur at the railyard sites.

Mitigation measures, which have been identified for the Proposed Project, include MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas for Marina Operations*), and MM CUL-12 (*Discovery of Human Remains*). These mitigation measures would lessen the overall impact, but not to a less-than-significant level. Therefore, impacts to historical resources (Impact CUL-1), unique archaeological resources (Impact CUL-2), and human remains (Impact CUL-3) would remain significant and unavoidable, like the Proposed Project. However, impacts under this alternative would be less severe because of the reduced ground disturbance.

Cultural Resources – Built Environment

With no designated or eligible historic-age resources within the Proposed Project sites, the CSLC No Project Alternative would result in no impacts to built environment resources (Impact CUL-1), like the Proposed Project.

Cultural Resources – Tribal Cultural Resources

The CSLC No Project Alternative decommissioning activities outside of the CSLC jurisdiction would continue as described for the Proposed Project. While ground disturbance under this alternative would decrease, this alternative would require the same level of ground disturbance as the Proposed Project outside of CSLC jurisdiction, resulting in the same potential to encounter unknown buried cultural resources that could be considered Tribal Cultural Resources and could be evaluated as significant; and the same potential to affect a known Tribal Cultural Resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area.

MMs CUL-1 through CUL-12 would lessen the overall impact, however, not to a less-than-significant level. Therefore, impacts to Tribal Cultural Resources (Impact TCR-1) would remain significant and unavoidable, like the Proposed Project; although, impacts under this alternative would be less severe because of the reduced ground disturbance.

Energy

The energy impacts from this alternative would be lower than the Proposed Project as there would be fewer structures demolished and less material hauled to and from the DCPP site, so

less energy would be consumed to decommission the DCPP site. Like the Proposed Project, impacts would be less than significant for Impact EN-1 and Impact EN-2.

Geology, Soils, Paleontological Resources, and Coastal Processes

Impacts to geology and soils under the CSLC No Project Alternative would not differ from the Proposed Project (Impact GEO-1). MM GEO-1 (*Geologic Hazard Assessment and Geotechnical Investigation*) and MM GEO-2 (*Seismic Hazard and Coastal Processes Assessment of Discharge Structure*) identified for the Proposed Project would reduce impacts to less than significant. Like the Proposed Project, impacts at the railyards would be less than significant.

Impacts associated with erosion under this alternative would be considerably reduced compared to the Proposed Project (Impact GEO-2), as structures and facilities located within the CSLC jurisdiction would remain in place. There would be decreased structure demolition and backfill required under this alternative as well as implementation of the site-specific SWPPP and CGP (ACs BIO-3 and WQ-1), thereby reducing ground disturbance and erosion potential. MM HWQ-1 (*Prepare and Implement Drainage Plans*) and MM HWQ-2 (*Long-Term Erosion and Sediment Control Plan*) would ensure impacts from this alternative are less than significant. Like the Proposed Project, impacts at the railyards would be less than significant.

Impacts to paleontological resources with this alternative would not differ from the Proposed Project (Impact GEO-3) and impacts would be less than significant. Impacts related to having soils incapable of adequately supporting the use of septic tanks would not differ from the Proposed Project and impacts would be less than significant (Impact GEO-4).

This alternative may expose existing structures in the coastal zone to additional tidal action and sea level rise as structures within the CSLC jurisdiction would remain in place. Per the CCC CDP A-3-SLO-04-035 for the existing ISFSI, annual surveys of the shoreline nearest the ISFSI transport road and Soil Disposal Site #2 are to be conducted through the life of the ISFSI by a licensed Surveyor or Civil Engineer (CCC, 2004). A site stability evaluation report must be prepared and submitted by a California Certified Engineering Geologist based upon an on-site evaluation that indicates that the bluff setback is adequate to allow for bluff erosion over the 75-year period (CCC, 2004). As such, impacts related to coastal processes would be less than significant. Because decommissioning under this alternative would not occur in the coastal zone, this alternative would neither impair nearshore sediment properties, characteristics, or processes nor impair coastal wave, current, or circulation patterns. Therefore, this alternative would have fewer impacts to coastal processes compared to the Proposed Project. Impacts related to coastal processes for the SMVR-SB and PBR sites would be the same as the Proposed Project.

Greenhouse Gas Emissions

The GHG emissions from this alternative would be lower than the Proposed Project as fewer structures would be demolished, and less material hauled to and from the DCPP site. The CSLC No Project Alternative would have less-than-significant impacts related to increases in GHG emissions with implementation of MM GHG-1 (*Reduce GHG Emissions or Surrender Offset Credits*) (Impact GHG-1). Like the Proposed Project, this alternative would not conflict with GHG emissions reductions plans, policies, or regulations (Impact GHG-2).

Hazardous and Radiological Materials

Impacts from non-radiological hazardous waste under Alternative 2 would be similar to those under the Proposed Project (Impacts HAZ-1 through HAZ-7). However, the volume of waste would be less due to fewer structures requiring dismantling. With MM HAZ-1 (*Facility Hazardous Waste Permit Extension*), MM HAZ-2 (*Worker Registration/ Certification*) and MM HAZ-3 (*Soil and Groundwater Site Characterization Work Plan*), as well as MM HWQ-1 (*Long-Term Erosion and Sediment Control Plan*), MM HWQ-2 (*Clean Marina Provisions*), MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) and MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*), non-radiological hazardous material impacts under this alternative would be less than significant.

The portions of the Proposed Project that are within CSLC jurisdiction (and which would not be dismantled under Alternative 2) are not expected to contain radiological materials. In addition, at the end of decommissioning, the applicable NRC and USEPA standards relative to radiological materials and radiation exposures to workers and the public through all media, are identical. Therefore, radiological impacts under this alternative (Impacts HAZ-8 through HAZ-12) would be like the Proposed Project and less than significant.

Hydrology and Water Quality

Under Alternative 2, decommissioning of structures would not occur in the coastal zone; therefore, impacts within the coastal zone would be limited to barge and tugboat use for waste disposal. If the retained structures are improperly or insufficiently maintained, they may degrade over time, potentially impacting water quality. Like the Proposed Project, salinity changes in the Discharge Cove related to brine and wastewater discharges occurring under reduced once-through-cooling (OTC) conditions and eventual elimination of OTC (i.e., shutdown of the Discharge Structure) would continue under this alternative and are less than significant.

Some upland soils are known to be contaminated, and generally the same potential impacts related to degradation of water quality, erosion, sedimentation, and flooding identified for the Proposed Project would be expected. The same soil and water management plans and mitigation measures would be required to reduce impacts to less than significant. With respect to groundwater impacts, freshwater demand would be reduced as less dust suppression and soil compaction is anticipated with the reduced number of structures to be removed, and the impact would continue to be less than significant.

Impacts related to coastal processes for the SMVR-SB and PBR sites would be the same as the Proposed Project as these sites are in more inland areas.

Land Use and Planning

Onshore decommissioning activities outside of the CSLC jurisdiction would continue as described for the Proposed Project under the CSLC No Project Alternative. Fewer activities would occur offshore, and less waste may be transported along truck and rail routes under this alternative. However, while a reduction in railyard trips would shorten the frequency or overall period of impacts to adjacent land uses, transport activities during Phase 1 and Phase 2 could still disrupt land uses along the proposed truck haul routes and within the central Avila Beach community.

As discussed for the Proposed Project, MM TRA-1 *(Truck Transportation Outside of Peak Hours),* MM TRA-2 *(Specialty Heavy-Haul Transport Vehicle Transportation Management Plan),* MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), and MM TRA-5 (*Quarterly Decommissioning Updates*) would be implemented to minimize land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle TMP, and ongoing notifications to affected land uses. There would be no new impacts associated with disruptions or displacement of land uses under this alternative that would require additional mitigation. Impact LUP-1 would remain less than significant with mitigation.

None of the activities under this alternative would extend into adjacent agricultural lands. Similar to the Proposed Project, impacts to agricultural resources would not occur (Impact LUP-2).

Noise

The level of onshore decommissioning activities would be reduced compared to the Proposed Project which may reduce the intensity or duration but would continue to generate temporary construction noise and vibration levels at the DCPP site and railyards identical to those discussed in Impacts NOI-1 through NOI-3 for the Proposed Project.

Offshore activities associated with the decommissioning would not occur, thereby avoiding temporary noise associated with those decommissioning activities, including underwater noise (see *Biological Resources – Marine*).

Public Services and Utilities

This CSLC No Project Alternative would result in fewer structures requiring decommissioning and dismantlement. Therefore, fewer workers and truck trips would be needed to transport the reduced volume of dismantled structures and materials. The reduction of construction trips and vehicles would have fewer impacts to emergency services (Impact PSU-1) than the Proposed Project. Retaining the structures within the CSLC jurisdiction would preclude the release of the Marina for third party reuse. Therefore, modifications to the Intake Structure, construction of public restrooms and Marina area septic system, and construction of the blufftop road segment would not occur. Impacts related to relocating or constructing new utility facilities (Impact PSU-2), use of water resources (Impact PSU-3), and generation of wastewater and solid waste (Impacts PSU-4 and PSU-5) would be less than the Proposed Project. This alternative would continue to comply with all applicable regulations related to solid waste (Impact PSU-6), and impacts would remain less than significant.

Recreation and Public Access

Impacts to public access and recreation under the CSLC No Project Alternative would be reduced compared to the Proposed Project given that this alternative would involve less demolition, structure removal, and offsite export for those facilities located within the CSLC jurisdiction, which would remain in place, reducing truck trips that would temporarily interfere with access to local trails or recreational areas along Avila Beach Drive. Trucking and equipment transport for other onshore decommissioning activities would still occur under the operating license for the reactor units (Units 1 and 2), with potential temporary impacts to public access and recreation.

Like the Proposed Project, with implementation of MM REC-1 (*Commercial Fishing Operations Access Plan for Avila Beach Drive*), along with MM EM-2 (*Project Plan, Updating, Tracking, and Reporting*), and MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and TRA-7 (*Coordination with Harbormasters*), impacts would be less than significant with mitigation related to permanent, temporary or intermittent roadway, parking, or trail closures obstructing upland, shoreline, and water-dependent public access and recreation (Impact REC-1); restricted access to the coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways (Impact REC-2); and exposure of recreational users to hazards (Impact REC-4). Similarly, like the Proposed Project impacts would be less than significant related to the increased use or construction or expansion of recreational facilities (Impact REC-3).

Transportation

Ground Transportation. More DCPP facilities would remain intact under this alternative compared to the Proposed Project, as structures would remain in the CSLC jurisdiction. Therefore, fewer structures and materials would be removed from the site, reducing the number of truck trips compared to the Proposed Project. This alternative would reduce the number of employees and commutes at the DCPP site and thus would reduce VMT. Therefore, this alternative would generate a similar level of VMT as the Proposed Project and mitigated with MM TRA-1 (*Truck Transportation Outside of Peak Hours*) (Impact TRA-1). Impacts related to incompatible uses (Impact TRA-2) would be the same as the Proposed Project.

This alternative would not alter emergency access routes. The opening of the site and reduction of the Owner Controlled Area in Phase 2 would eventually occur and include the construction of the blufftop road. Therefore, impacts related to inadequate emergency access would be the same as the Proposed Project (Impact TRA-3) and MM TRA-1 *(Truck Transportation Outside of Peak Hours),* MM TRA-2 *(Specialty Heavy-Haul Transport Vehicle Transportation Management Plan),* MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*) and MM TRA-6 (*Diablo Creek Crossing Structure Inspection and Repair*) would reduce impacts to less than significant.

Marine Transportation. Under this alternative, the export of waste by barge would continue requiring up to 28 round trips (each tug pulls two barges for a total of 55 barges) over a four-year timeframe during Period 1B (2030-2033), like the Proposed Project. Therefore, offshore marine transportation impacts related to marine vessel safety would be like the Proposed Project and would be less than significant with the implementation of MM TRA-7 (*Coordination with Harbormasters*) and MM TRA-8 (*Marine Surveyor Assessment*) (Impact TRA-4). However, the transport of gravel by barge from the Port of Long Beach to fill the Discharge Structure cofferdam (up to 15 round trips during Period 1A [2024-2029]) and the transport of quarry rock by barge from the Connolly-Pacific Co. Quarry on Santa Catalina Island to fill the void left in the bluff following removal of the Discharge Structure (three round trips during Period 1B [2030-2033]) would not be required. Therefore, impacts would be less severe due to the reduction of up to 15 round trips during Period 1A and three round trips during Period 1B. Like the Proposed Project, barge

transport associated with this alternative would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

Wildfire

The CSLC No Project Alternative would result in fewer structures requiring decommissioning and dismantlement. Therefore, fewer truck trips would be needed to transport the reduced volume of dismantled structures and materials. Fewer workers may also be required for this alternative, resulting in fewer worker vehicles. The reduction of construction vehicles and trips would have fewer impacts to an emergency response plan and evacuation plan (Impact WF-1) than the Proposed Project. Given the potential decrease in workers due to the reduced decommissioning activities, wildfire risks (Impacts WF-2 and WF-3) would be less than the Proposed Project. The CSLC No Project Alternative would not expose people or structures to substantial downslope or post-fire slope instability hazards, as the topography of the DCPP site and railyards would not substantially change within the next 60 years. Impact WF-4 would remain less than significant.

5.4.3 Alternative 3: Minimum Demolition Alternative

5.4.3.1 Alternative 3 Description

This alternative minimizes demolition activities by leaving buildings and supporting infrastructure in place to the maximum extent feasible while meeting NRC requirements that regulate decontamination and radiological and chemical remediation. The intent of the Minimum Demolition Alternative would be to substantially reduce the environmental impacts associated with dismantling and off-site transport within the short-term future when compared to the Proposed Project. Decontamination and radiological and chemical remediation would take place to achieve NRC Part 50 operating license termination, but demolition and removal of structures would be kept to a minimum, leaving structures such as the Seawater Reverse Osmosis Facility in place for potential third-party reuse (see Section 8.0, *Potential Site Reuse Concepts (Phase 3)*). Eventual dismantlement and off-site transport *could* take place later. Alternatively, the buildings and supporting infrastructure could be reused by a third party.

Background

10 CFR 50.82 provides guidelines for License Termination, and includes the following:

> *(11) The Commission [NRC] shall terminate the license if it determines that—*
>
> *(i) The remaining dismantlement has been performed in accordance with the approved license termination plan, and*
>
> *(ii) The final radiation survey and associated documentation, including an assessment of dose contributions associated with parts released for use before approval of the license termination plan, demonstrate that the facility and site have met the criteria for decommissioning in 10 CFR part 20, subpart E.*

Assuming the property owner elects to retain the current structures and upon clearance by the NRC that the DCPP is in compliance with 10 CFR 20.1402 (radiological criteria for unrestricted

use – text provided below), PG&E would be released from its Part 50 Facility Operating Licenses obligations for on-site structures.

As noted above, leaving the maximum number of existing structures in place would substantially reduce the environmental impacts associated with complete or partial dismantling and off-site transport, particularly in the immediate vicinity. This approach has been employed at the Rancho Seco nuclear facility near Lodi, California. The following regulation applies to the Minimum Demolition Alternative.

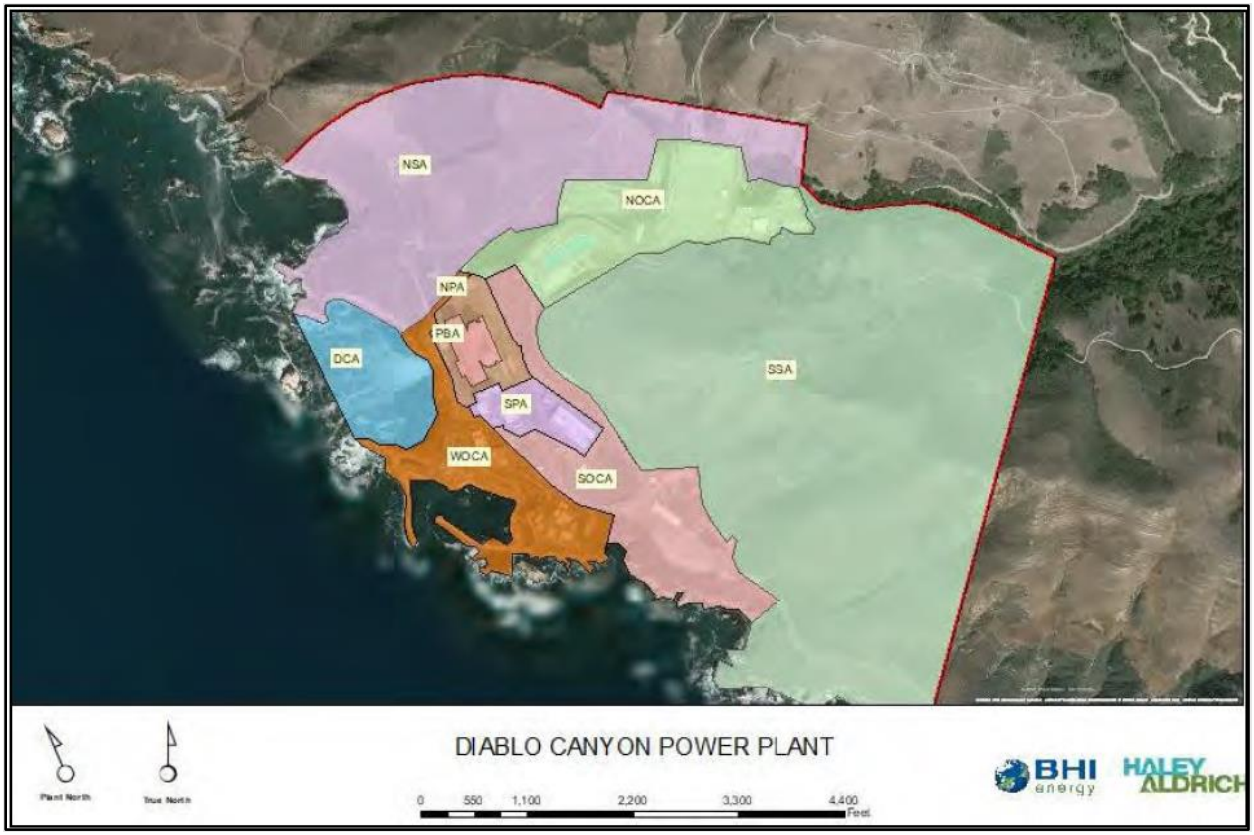
10 CFR 20.1402, (radiological criteria for unrestricted use) states:

> *A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a total effective dose equivalent to an average member of the critical group that does not exceed 25 [millirem] mrem (0.25 mSv) per year, including that from groundwater sources of drinking water, and the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). Determination of the levels which are ALARA must take into account consideration of any detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal.*

Site Characterization Study, Historic Site Assessment and Site Characterization Plan

As discussed in Project Description Section 2.3.7, *Site Characterization Study*, PG&E carried out an Historical Site Assessment (HSA), which was a preliminary investigation designed to collect existing information describing the history of the DCPP from start of operations to present. As noted in Section 2.3.21, *Soil Remediation*, these analyses separated DCPP into nine subareas (see Figure 5-6). Based upon records research and personnel interviews, it was determined that seven of the nine subareas had a probability of some degree of radioactive impacts in the form of radioactive contamination. The other two subareas – the North Site Area (NSA) and South Site Area (SSA) – are primarily open space with no structures except for roadways and fences. Table 5-2, corresponding with Figure 5-6, provides the name, location, and estimated area (square meters) for each of the subareas in which it was determined that some degree of radioactive contamination could occur. Within these seven subareas, individual areas and buildings were determined to be either impacted or non-impacted, based upon the Multiple Agency Survey and Site Investigation (MARSSIM) model. The MARSSIM model assigns three Classes – 1, 2, and 3 to identify the appropriate type and degree of remediation necessary to reduce residual radioactivity to a level that would allow for license termination.

Figure 5-6. Diablo Canyon Power Plant Site Characterization Study Areas



Source: PG&E, 2021b – Figure 4-6.

Table 5-2. Summary of Potentially Radiologically Impacted Areas by Area

Study Subarea	Acronym	Approximate Area (m^2)	MARSSIM Class
North Owner Controlled Area	NOCA	259,000	N/A
South Owner Controlled Area	SOCA	249,600	Class 3
West Owner Controlled Area	WOCA	207,400	Class 3
Discharge Cove Area	DCA	115,000	Class 3
North Protected Area	NPA	66,500	Class 1
South Protected Area	SPA	53,400	Class 1
Power Block Area	PBA	22,300	Class 1

Source: PG&E, 2021b – Table 4-2.

N/A – North Owner Controlled Area will remain active and therefore was not assessed.

Note: Most DCPP buildings were not assigned a MARSSIM classification because the HSA assumed these buildings would be removed as part of the Proposed Project.

Derived Concentration Guideline Levels (DCGL) are statistically derived limits for each nuclide of radioactivity for a specific site. DCGL have not been determined for the DCPP Decommissioning Project, however, DCGL would be in place prior to Final Status Surveys (FSS) and be used as a standard for releasing Project areas from radioactivity controls. Class 1 are areas that have, or had prior to remediation, a potential for radioactive contamination or known contamination

above the DCGL. Class 2 area areas that have, or had prior to remediation, a potential for radioactive contamination or known contamination, but are not expected to exceed a DCGL. Class 3 areas are not expected to contain any residual radioactivity or are expected to contain levels of residual radioactivity at a small fraction of the DCGL. Although the DCGL metric is not the same as the millirem (mrem) metric used as part of the NRC analysis to terminate a Part 50 Facility Operating License, nonetheless it may be an indicator of whether a building or area could possibly remain for unrestricted use and not pose a health risk. No Class 2 categories were assigned to any buildings or soils at the DCPP site.

Excluding the NOCA subarea (e.g., switchyards, Old Steam Generator Storage Facility, water reservoirs, ISFSI, etc.), the HSA categorized the open lands/soils in the SOCA, WOCA, and DCA as Class 3. The PBA, NPA, and SPA subareas were assigned a Class 1 category. It should be noted that most DCPP buildings were not assigned a MARSSIM classification because the HSA assumed that these buildings were going to be removed as noted in the Proposed Project.

The Minimum Demolition Alternative assumes that all structures in the SOCA, WOCA, DCA, NPA, SPA, and PBA subareas would remain in place, including the containment domes and spent fuel pools (PG&E, 2022a).

A Site Characterization Study is anticipated to be initiated in December 2024 (see Table 2-10) with the purpose of identifying and validating radiologically impacted areas for decommissioning, dismantlement, and decontamination and determining required soil remediation efforts. Based on the Site Characterization Study, appropriate decontamination measures would be identified and applied where necessary. Specific and immediate decontamination measures (e.g., fluid disposal, interior equipment removal, scarifying/scabbling, etc.) would be carried out to remove radiological contamination. Other structures and areas would be left for natural radiological decay until NRC requirements for unrestricted use, which are based on a resident farmer scenario of 25 mrem per year, are met and the Part 50 License can be terminated, could result in having buildings on site for several decades preventing potential repurposing of the site. A final determination of whether any structures would need to be removed would be made following completion of the Site Characterization Study and initial decontamination results.

5.4.3.2 Environmental Impact Analysis

The impacts of the Minimum Demolition Alternative compared to the Proposed Project are described below.

Aesthetics

As the location of activities under the Minimum Demolition Alternative would be the same as the Proposed Project, potential impacts to a scenic vista (Impact AES-1) would remain less than significant, and potential impacts to a scenic resource (Impact AES-2) would not occur. During Phase 2, the visual quality of the DCPP site (Impact AES-3) would not improve substantially from existing conditions, as the majority of structures would remain on site, which would increase the no impact conclusion to a less-than-significant impact (Class III). Nighttime lighting impacts that may occur at the SMVR-SB railyard (Impact AES-4) would remain less than significant with mitigation (Class II).

Air Quality

Criteria air pollutant emissions from this alternative would be lower than those from the Proposed Project as there would be fewer structures demolished and less material hauled to and from the DCPP site. With implementation of MM AQ-1 (*Implement a Decommissioning Activity Management Plan*) and MM AQ-2 (*Provide Funding for Off-site Mitigation of Equipment Emissions*) the Minimum Demolition Alternative would have less-than-significant impacts related to net increases of criteria air pollutants for which the area is in non-attainment (Impact AQ-2) and impacts on sensitive receptors (Impact AQ-3). This alternative, like the Proposed Project, would have less-than-significant impacts related to local air quality plan conformity (Impact AQ-1) and odor impacts (Impact AQ-4).

Biological Resources – Terrestrial

Under this alternative, impacts from the permanent and temporary loss of native vegetation, ESHAs, and jurisdictional features (Impacts BIO-1, BIO-7, and BIO-9, respectively) are expected to be similar to those described for the Proposed Project since the structures to remain under this alternative are all anticipated to be within the disturbed, unvegetated areas of the DCPP site. Since demolition activities would be minimized, impacts from the introduction and spread of noxious weeds (Impact BIO-2) would be less severe. Similarly, impacts to nesting birds (Impact BIO-4) and special-status wildlife (Impact BIO-6) would be less severe since minimal demolition would result in reduced noise and disturbance and would also retain structures that could be used as potential nesting or roosting sites. Impacts associated with conflicts with local plans and policies (Impact BIO-10) would be the same as those described for the Proposed Project. PG&E would implement the same mitigation measures described for the Proposed Project to ensure that impacts are reduced to less than significant under Alternative 3.

Biological Resources – Marine

Under the Minimum Demolition Alternative, all structures would remain in place, including the containment domes and spent fuel pools. As such, no impacts to marine biological resources are anticipated, and this alternative would therefore have fewer impacts compared to the Proposed Project.

Cultural Resources – Archaeology

The Minimum Demolition Alternative would result in less structures requiring decommissioning and dismantlement in the short term; however, there is the possibility of future eventual dismantlement of remaining structures and facilities. Soil remediation efforts cannot be fully understood until the completion of the Site Characterization Study. For the purposes of this analysis, the amount of short-term and future ground disturbance is assumed to be less than the Proposed Project.

While ground disturbance at the DCPP site under this alternative would decrease, this alternative would require the same level of ground disturbance as the Proposed Project outside of the SOCA, WOCA, DCA, NPA, SPA, and PBA subareas, resulting in the same potential in the remaining portion of the Proposed Project site to encounter unknown buried cultural resources that could be evaluated as significant; and the same potential to affect a known cultural resource (CA-SLO-

2) located in the NSA subarea during Phase 2 activities if soil remediation extends into native soils under the former sand blast area. Like the Proposed Project, no impacts would occur at the railyard sites.

Mitigation measures, which have been identified for the Proposed Project, include MM CUL-1 (*Retain a County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas for Marina Operations*), and MM CUL-12 (*Discovery of Human Remains*). These mitigation measures would lessen the overall impact, however not to a less-than-significant level. Like the Proposed Project, impacts to historical resources (Impact CUL-1), unique archaeological resources (Impact CUL-2), and human remains (Impact CUL-3) would remain significant and unavoidable. However, impacts under this alternative would be less severe because of the reduced ground disturbance.

Cultural Resources – Built Environment

With no designated or eligible historic-age resources within the Project sites, the Minimum Demolition Alternative would result in no impacts to built environment resources (Impact CUL-1), like the Proposed Project.

Cultural Resources – Tribal Cultural Resources

The Minimum Demolition Alternative would result in less structures requiring decommissioning and dismantlement at the DCPP site in the short term; however, there is the possibility of future eventual dismantlement of remaining structures and facilities. Soil remediation efforts cannot be fully understood until the completion of the Site Characterization Study. For the purposes of this analysis, the amount of short term and future ground disturbance is assumed to be less than the Proposed Project.

While ground disturbance under this alternative would decrease at the DCPP site, this alternative would require the same level of ground disturbance as the Proposed Project outside of the SOCA, WOCA, DCA, NPA, SPA, and PBA subareas, resulting in the same potential in the remaining portion of the Proposed Project site to encounter unknown buried cultural resources that could be considered Tribal Cultural Resources and could evaluated as significant; and the same potential to affect a known Tribal Cultural Resource (CA-SLO-2) located in the NSA subarea during Phase 2 activities if soil remediation extends into native soils under the former sand blast area. Like the Proposed Project, no impacts would occur at the railyard sites.

MMs CUL-1 through CUL-12 would lessen the overall impact, however, not to a less-than-significant level. Like the Proposed Project, impacts to Tribal Cultural Resources (Impact TCR-1) would remain significant and unavoidable. However, impacts under this alternative would be less severe because of the reduced ground disturbance.

Energy

The energy impacts from this alternative would be lower than the Proposed Project as fewer structures would be demolished and less material hauled to and from the DCPP site, so less energy would be consumed to decommission the DCPP site. Like the Proposed Project, impacts would be less than significant for Impact EN-1 and Impact EN-2.

Geology, Soils, Paleontological Resources, and Coastal Processes

Impacts to geology and soils under the Minimum Demolition Alternative would not differ from the Proposed Project (Impact GEO-1). MM GEO-1 (*Geologic Hazard Assessment and Geotechnical Investigation*) and MM GEO-2 (*Seismic Hazard and Coastal Processes Assessment of Discharge Structure*) identified for the Proposed Project would reduce impacts from this alternative to less than significant. Like the Proposed Project, impacts at the railyards would be less than significant.

Impacts associated with erosion under this alternative would be considerably reduced compared to the Proposed Project (Impact GEO-2), as demolition activities would be minimized and supporting infrastructure would remain in place to the maximum extent feasible. There would be decreased structure demolition and backfill required under this alternative as well as implementation of the site-specific SWPPP and CGP (ACs BIO-3 and WQ-1), thereby reducing ground disturbance and erosion potential. MM HWQ-1 (*Prepare and Implement Drainage Plans*) and MM HWQ-2 (*Long-Term Erosion and Sediment Control Plan*) would ensure impacts from this alternative are less than significant.

Impacts to paleontological resources with this alternative would not differ from the Proposed Project (Impact GEO-3) and impacts would be less than significant. Impacts related to having soils incapable of adequately supporting the use of septic tanks would not differ from the Proposed Project and impacts would be less than significant (Impact GEO-4).

Under the Minimum Demolition Alternative, structures in the coastal zone at the DCPP site may or may not be removed. If removed, coastal processes impacts would be identical to the Proposed Project. If left in place, future sea level rise within this period may expose people and structures in the coastal area to hazards such as larger wave heights and blufftop erosion. Per the CCC CDP A-3-SLO-04-035 for the existing ISFSI, annual surveys of the shoreline nearest the ISFSI transport road and Soil Disposal Site #2 are to be conducted through the life of the ISFSI by a licensed Surveyor or Civil Engineer (CCC, 2004). A site stability evaluation report must be prepared and submitted by a California Certified Engineering Geologist based upon an on-site evaluation that indicates that the bluff setback is adequate to allow for bluff erosion over the 75-year period (CCC, 2004). As such, impacts related to coastal processes would continue to be less than significant. If no decommissioning occurs in the coastal zone, this alternative would neither impair nearshore sediment properties, characteristics, or processes nor impair coastal wave, current, or circulation patterns. Therefore, this alternative would have fewer impacts to coastal processes compared to the Proposed Project. Impacts related to coastal processes for the SMVR-SB or PBR sites would be the same as the Proposed Project as these sites are located in more inland areas.

Greenhouse Gas Emissions

The GHG emissions from this alternative would be lower than the Proposed Project as fewer structures would be demolished, and less material hauled to and from the DCPP site. The Minimum Demolition Alternative would have less-than-significant impacts related to increases in GHG emissions with implementation of MM GHG-1 (*Reduce GHG Emissions or Surrender Offset Credits*) (Impact GHG-1). Like the Proposed Project, this alternative would not conflict with GHG emissions reductions plans, policies, or regulations (Impact GHG-2).

Hazardous and Radiological Materials

Impacts from non-radiological hazardous waste under Alternative 3 would be similar to those under the Proposed Project (Impacts HAZ-1 through HAZ-7), but slightly less due to the reduced volume of waste generated limiting exposure. With MM HAZ-1 (*Facility Hazardous Waste Permit Extension*), MM HAZ-2 (*Worker Registration/ Certification*) and MM HAZ-3 (*Soil and Groundwater Site Characterization Work Plan*), as well as MM HWQ-1 (*Long-Term Erosion and Sediment Control Plan*), MM HWQ-2 (*Clean Marina Provisions*), MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) and MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*), non-radiological hazardous material impacts under this alternative would be less than significant. At the end of decommissioning, the applicable NRC and USEPA standards relative to radiological materials and radiation exposures to workers and the public through all media, are identical. Therefore, radiological impacts under this alternative (Impacts HAZ-8 through HAZ-12) would be the same as the Proposed Project and less than significant.

Hydrology and Water Quality

This alternative would result in limited demolition, and potentially structures in the coastal zone would remain in place. If remaining structures were improperly or insufficiently maintained, they may degrade over time, potentially impacting water quality. Like the Proposed Project, salinity changes in the Discharge Cove related to brine and wastewater discharges occurring under reduced OTC conditions and eventual elimination of OTC (i.e., shutdown of the Discharge Structure) would continue under this alternative and are less than significant.

While less soil disturbance would occur under Alternative 3, the potential to contaminate groundwater with radiological byproducts, construction materials, and demolition debris during decommissioning remains. The same soil and water management plans and mitigation measures would be required to reduce impacts to less than significant. With respect to groundwater impacts, freshwater demand would be reduced under Alternative 3 as less dust suppression and soil compaction is anticipated with the reduced number of structures to be removed, and the impact would be less than significant.

Impacts related to coastal processes for the SMVR-SB and PBR sites would be the same as the Proposed Project as these sites are located in more inland areas.

Land Use and Planning

The Minimum Demolition alternative would minimize demolition and removal of structures, and the number of truck transport trips for equipment and waste removal would be less than under

the Proposed Project. However, although a reduction in transport trips would shorten the frequency or overall period of impacts to adjacent land uses, such transport activities during Phase 1 and Phase 2 could still create access disruptions for land uses along the proposed routes (Impact LUP-1). As discussed for the Proposed Project, MM TRA-1 *(Truck Transportation Outside of Peak Hours),* MM TRA-2 *(Specialty Heavy-Haul Transport Vehicle Transportation Management Plan),* MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), and MM TRA-5 (*Quarterly Decommissioning Updates*) would be implemented to minimize land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle TMP, and ongoing notifications to affected land uses. There would be no new impacts associated with disruptions or displacement of land uses under this alternative that would require additional mitigation. Impact LUP-1 would remain less than significant with mitigation.

None of the activities under this alternative would extend into adjacent agricultural lands, and there would be no impact to agricultural resources (Impact LUP-2)

Noise

The temporary construction noise and vibration levels for onshore decommissioning under the Minimum Demolition Alternative would be similar, but the duration and intensity may be substantially reduced compared to those discussed in Impacts NOI-1 through NOI-3 for the Proposed Project.

Offshore activities associated with the decommissioning would not occur, thereby avoiding temporary noise associated with those decommissioning activities including underwater noise (see *Biological Resources – Marine*).

Public Services and Utilities

The Minimum Demolition Alternative would initially result in reduced decommissioning waste, materials, truck trips, and demand for utilities due to the reduced number of structures needed to be dismantled and removed. Impacts to emergency services (Impact PSU-1) would be reduced compared to the Proposed Project, as truck trips would be reduced or spread out over a longer period of time. Depending on which buildings remain, the blufftop road segment may not be constructed. Regardless, this road would not serve as an official secondary emergency access road and its absence would not reduce the level of service to the DCPP site. Under this alternative, with the possibility of future eventual dismantlement of remaining structures and facilities, the demand for utilities and amount of waste generated under this alternative would be similar to the Proposed Project. Impacts relating to new or relocated utilities (Impact PSU-2), water supplies and wastewater (Impacts PSU-3 and PSU-4), solid waste (Impact PSU-5), and solid waste regulations (Impact PSU-6) would be the same as the Proposed Project. Alternatively, if retained structures are to be reused in the future, the Minimum Demolition Alternative could result in greater impacts than the Proposed Project depending on the intensity and nature of the future use.

Recreation and Public Access

Impacts to recreation and public access under the Minimum Demolition Alternative would be reduced compared to the Proposed Project because less activities outside of the Project site, such as trucking traffic and personnel traffic, would occur that would temporarily or intermittently interfere with access to local trails or recreational areas along Avila Beach Drive. Like the Proposed Project, with implementation of MM REC-1 (*Commercial Fishing Operations Access Plan for Avila Beach Drive*), along with MM EM-2 (*Project Plan, Updating, Tracking, and Reporting*), and MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and TRA-7 (*Coordination with Harbormasters*) impacts would be less than significant with mitigation related to permanent, temporary or intermittent roadway, parking, or trail closures (Impact REC-1); restricted access to the coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways (Impact REC-2); and exposure of recreational users to hazards (Impact REC-4). Similarly, like the Proposed Project, impacts would be less than significant related to the increased use or construction or expansion of recreational facilities (Impact REC-3).

Transportation

Ground Transportation. More DCPP facilities would remain intact for the Minimum Demolition Alternative compared to the Proposed Project. Therefore, fewer structures and materials would be removed from the site, reducing the number of truck trips compared to the Proposed Project. This alternative would reduce the number of employees and commutes at the DCPP site and thus would reduce VMT. With more structures left intact, slightly more operational on-site employees may be required to maintain these structures. However, the reduction in VMT would be similar to the Proposed Project and mitigated with MM TRA-1 (*Truck Transportation Outside of Peak Hours*) (Impact TRA-1).

Impacts related to incompatible uses (Impact TRA-2) and inadequate emergency access (Impact TRA-3) would be the same as the Proposed Project and reduced to a less-than-significant level with implementation of MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 *(Specialty Heavy-Haul Transport Vehicle Transportation Management Plan),* MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), and MM TRA-5 (*Quarterly Decommissioning Updates*). However, depending on which buildings remain, the bluff-top road segment may not be constructed and therefore MM TRA-6 (*Diablo Creek Crossing Structure Inspection and Repair*) may not be required. As such, historic access through the Diablo Canyon lands may not occur. This connection is not required to support future actions at the site, such as the Marina operations, but would be a benefit of the Proposed Project, which may not occur under this alternative.

Marine Transportation. Under this alternative, the export of waste by barge would continue requiring up to 28 round trips (each tug pulls two barges for a total of 55 barges) over a four-year timeframe during Period 1B (2030-2033), which is the same as the Proposed Project. Therefore, offshore marine transportation impacts related to marine vessel safety would be like the Proposed Project and would be less than significant with the implementation of MM TRA-7

(*Coordination with Harbormasters*) and MM TRA-8 (*Marine Surveyor Assessment*) (Impact TRA-4). However, the transport of gravel by barge from the Port of Long Beach to fill the Discharge Structure cofferdam (up 15 round trips during Period 1A [2024-2029]) and the transport of quarry rock by barge from the Connolly-Pacific Co. Quarry on Santa Catalina Island to fill the void left in the bluff following removal of the Discharge Structure (three round trips during Period 1B [2030-2033]) would not be required. Therefore, impacts would be less severe because of the reduction of 15 round trips during Period 1A and three round trips during Period 1B. Like the Proposed Project, barge transport associated with this alternative would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

Wildfire

Under the Minimum Demolition Alternative, minimal structures would require decommissioning and dismantlement in the short term. Therefore, fewer truck trips would be needed to transport the reduced volume of dismantled structures and materials. Fewer workers may also be required for this alternative, resulting in fewer worker vehicles. The large reduction of construction vehicles and trips would have fewer impacts to an emergency response plan and evacuation plan (Impact WF-1) than the Proposed Project. However, with the possibility of future eventual dismantlement of remaining structures and facilities, the eventual increase in worker vehicle trips and truck trips would occur and have similar impacts as the Proposed Project. Impact WF-1 would remain less than significant with mitigation. Given the potential decrease in workers due to the reduced decommissioning activities, wildfire risks (Impacts WF-2 and WF-3) would be less than the Proposed Project. The Minimum Demolition would not expose people or structures to substantial downslope or post-fire slope instability hazards, as the topography of the DCPP site and railyard would not substantially change within the next 60 years. Impact WF-4 would remain less than significant.

5.4.4 Alternative 4: Firing Range Minimum Earthwork Alternative

5.4.4.1 Alternative 4 Description

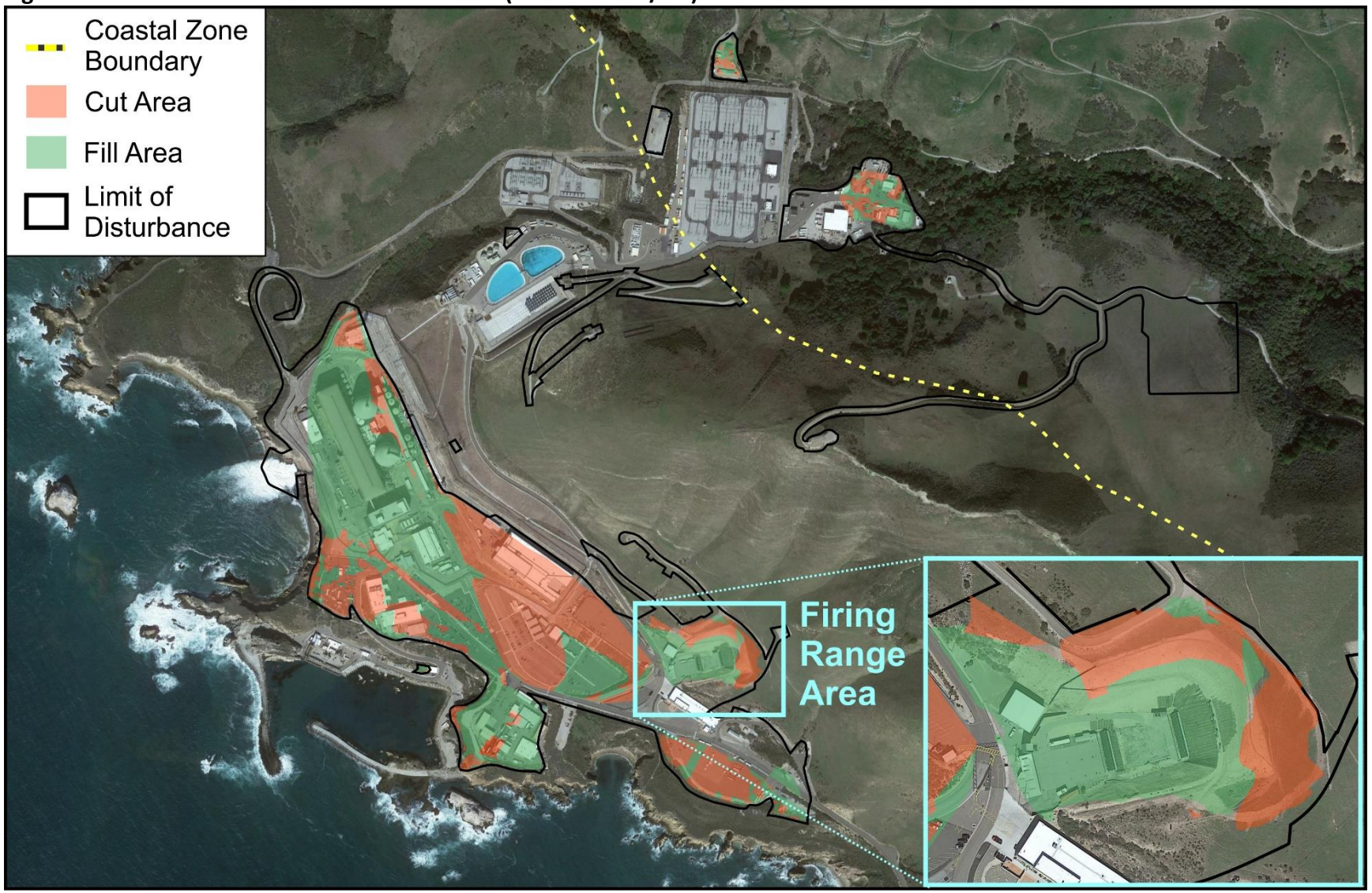
Under this alternative, excess cut generated from site grading would be utilized in the area of Firing Range (see Figure 5-7), which would be removed under Phase 1 of the Proposed Project. This alternative represents the minimal amount of earthwork necessary to achieve close to natural conditions, while maintaining positive drainage and back filling of voids created by demolition of DCPP structures. This alternative would generate fill material on site from areas of cut (i.e., areas where the finished grade is lower than the existing grade) and reuse clean, crushed on-site concrete derived from the demolition of structures. Alternative 4 would result in approximately 5.8 acres of disturbance and require approximately 92,463 cubic yards (CY) of earthwork (10,585 CY cut; 71,878 CY fill; ~10,000 CY export) in the area of the existing Firing Range as shown in Figure 5-8 (ERM, 2022). No soil would be required from the SE Borrow Site. There would be no changes related to the railyards; therefore, the discussions below focus on the DCPP site.

Table 5-3 also accounts for the filling of void spaces created by demolition and removal of the concrete foundations associated with existing structures as well as void space created by the planned removal of impacted soil. All earthwork materials would be sourced on site without

requiring soil from on-site (e.g., the SE Borrow Site) or off-site borrow sources, and therefore, would reduce cut impacts to native hills.

Figure 5-7. Existing Firing Range

Figure 5-8. Alternative 4 – Minimum Earthwork (Balanced Cut/Fill)



Source: ERM, 2022 – Scenario 1.

Table 5-3. Alternative 4 Firing Range Minimum Earthwork Cut and Fill Estimate			
Item	**Coastal Zone**	**Inland Zone**	**Site Total**
I. CUT/FILL BALANCE			
A) Volume of Fill for Void Areas (cubic yards)			
a) Structural Demolition – Volume Resulting from Structure Removal:			
i) Reactor 1	22,830	0	22,830
ii) Reactor 2	22,830	0	22,830
iii) Auxiliary Building	33,316	0	33,316
iv) Turbine Buildings	25,866	0	25,866
v) Excavation Depth of Buildings (assumes 3 feet below existing ground surface)	27,943	3,927	31,871
vi) Water Circulation Tunnels [1]	34,244	0	34,244
vii) Intake Structure	11,840	0	11,840
viii) Discharge Structure	16,775	0	16,775
Structural Demolition – Volume resulting from structure removal (i+ii+iii+iv+v+vi+vii+viii):	*195,644*	*3,927*	*199,572*
b) Earthwork – Volume Resulting from Export of Impacted Soil:			
i) Radiologically Contaminated Areas	15,930	0	15,930
ii) Transformer and UST Area	10,000	0	10,000
iii) Existing Firing Range Contaminated Areas	10,000	0	10,000
Earthwork – Volume resulting from export of impacted soil (i+ii+iii):	*35,930*	*0*	*35,930*
c) Earthwork – Soil Fill Volume Resulting from Grading Operations: [2]			
i) Firing Range Restoration	71,878	0	71,878
ii) Site Restoration (excludes Firing Range & SE Borrow Site)	300,714	1,946	302,660
iii) SE Borrow Site	0	0	0
iv) Discharge Structure (native soil)	2,215	0	2,215
Earthwork – Soil fill volume resulting from grading operations (i+ii+iii+iv):	*374,807*	*1,946*	*376,753*
Volume of Fill for Void Areas (a+b+c):	***606,381***	***5,873***	***612,255***
B) Volume of Cut Soils and Other Fill Materials (cubic yards)			
a) Earthwork – Soil Cut Volume Resulting from Grading Operations:			
i) Firing Range Restoration	10,585	0	10,585
ii) Site Restoration (excludes Firing Range & SE Borrow Site)	335,482	633	336,115
iii) SE Borrow Site	0	0	0
iv) Discharge Structure (native soil)	2,215	0	2,215
Earthwork – Soil cut volume resulting from grading operations (i+ii+iii+iv):	*348,282*	*633*	*348,915*
b) Volume of Recycled Crushed Concrete Derived from Site Demolition:			
i) Clean concrete aggregate available for reuse in CLSM [1]	30,500	0	30,500
ii) Clean concrete aggregate available for reuse with soil [3]	165,695	0	165,695
Volume of recycled crushed concrete derived from site demolition (i+ii)	*196,195*	*0*	*196,195*
c) Volume of Non-Soil Imported Materials:			
i) Discharge Structure Restoration (quarry rock)	16,775	0	16,775
ii) Cofferdam, excess materials (gravel and concrete)	30,610	0	30,610
iii) CLSM imported components (sand, cement, etc.)	15,584	0	15,584
Non-Earthwork – Volume of imported rock (i+ii+iii)	*62,969*	*0*	*62,969*
Volume of Cut Soils and Other Fill Materials (a+b+c)	***607,446***	***633***	***608,079***
Net Cut (+) / Fill (-) Balance (A-B)	***1,065***	***-5,240***	***-4,176***

Table 5-3. Alternative 4 Firing Range Minimum Earthwork Cut and Fill Estimate			
Item	**Coastal Zone**	**Inland Zone**	**Site Total**
II. EARTHWORK QUANTITY (Per County Titles 22 and 23)			
A) Volume of Fill (cubic yards)			
a) Export of impacted soil (I.A.b)			35,930
b) Grading operations (I.A.c)			376,753
		Volume of Fill (a+b)	*412,683*
B) Volume of Cut (cubic yards)			
a) Grading operations (I.B.a)			348,915
b) Imported topsoil 4			35,000
		Volume of Cut (a+b)	*383,915*
		Earthwork Quantity (A+B)	***796,553***
Estimated area of site disturbance, including soil disturbance and vegetation removal (acres): 96			

Source: ERM, 2022 – Earthwork Quantities (as edited by County); PG&E, 2022j –Sheet G-02 – Limits of Disturbance.
Acronyms: UST = Underground Storage Tank; CSLM = controlled low strength material

[1] Clean, crushed concrete generated from structure demolition would be used to create controlled low strength material (CLSM) used to fill the void volume of the water circulation tunnels and Intake Structure. The CLSM may consist of up to two-thirds clean, crushed concrete, or approximately 30,500 CY. The total void volume of the tunnels is 34,244 CY. The total void volume of the Intake Structure is 11,840 CY.

[2] The volume of clean concrete aggregate available for reuse is based on applying a volume increase of 20 percent to the volume of clean concrete generated from structure demolition. The volume increase is not applied to the quantity of clean, crushed concrete used to create CLSM for filling the water circulation tunnels and the Intake Structure since this concrete may be processed differently and therefore not experience the same bulking factor.

[3] The volume of soil fill represents the quantity of material required to fill the slopes, parking lots, and other areas. The "volume of soil fill", "volume of void space resulting from the removal of impacted soil", and "volume of void space resulting from structure demolition" together comprise the volume of total fill required to achieve the final grades within the grading plan (PG&E, 2021c – PD-6).

5.4.4.2 Environmental Impact Analysis

The impacts of the Firing Range Minimum Earthwork Alternative compared to the Proposed Project are described below.

Aesthetics

The Firing Range Minimum Earthwork Alternative would restore the DCPP to a more natural state than under current conditions, but it would not reestablish the original contour of the site as under the Proposed Project. As the location and types of activities occurring under this alternative would be the same as the Proposed Project, potential impacts to a scenic vista (Impact AES-1) and to the visual character and quality of the DCPP site (Impact AES-3) would remain less than significant, and potential impacts to a scenic resource (Impact AES-2) would not occur. The visual quality of the DCPP site would improve from existing conditions during Phase 2, although slightly less than under the Proposed Project. The SE Borrow Site would not be needed in this alternative, avoiding disturbance of a natural slope that is visible from within the DCPP site. The types of activities would result in similar light and glare impacts as the Proposed Project, and Impact AES-4 would remain less than significant (Class III) at the DCPP site and less than significant with mitigation (Class II) at the SMVR-SB railyard site.

Air Quality

Due to the reduced earthwork involved in restoring the area of the existing Firing Range, criteria air pollutant and fugitive dust emissions would be lower than those from the Proposed Project. Like the Proposed Project, the unmitigated emissions would be significant, and MM AQ-1 (*Implement a Decommissioning Activity Management Plan*) and MM AQ-2 (*Provide Funding for Off-site Mitigation of Equipment Emissions*) would be required to reduce ozone precursor and PM10 emissions (Impact AQ-2) and impacts on sensitive receptors (Impact AQ-3) to levels that would be less than significant. This alternative, like the Proposed Project would have less-than-significant impacts related to local air quality plan conformity (Impact AQ-1) and odor impacts (Impact AQ-4).

Biological Resources – Terrestrial

The Firing Range Minimum Earthwork Alternative would not require ground disturbance at the SE Borrow Site or tree trimming along the access road to the SE Borrow Site, which reduces the amount of ground disturbance by approximately 18.6 acres. As such, impacts from the permanent and temporary loss of native vegetation (Impact BIO-1) and the introduction of noxious and invasive weeds (Impact BIO-2) would be considerably reduced at the DCPP site compared to the Proposed Project. Impacts to nesting birds (Impact BIO-4), special-status plants (Impact BIO-5), and special-status wildlife (Impact BIO-6) would be similar to those discussed for the Proposed Project but would be reduced in magnitude at the DCPP site since the SE Borrow Site and associated habitat would be left intact. Impacts to ESHAs (Impact BIO-7) and jurisdictional features (Impact BIO-8) would not differ from the Proposed Project since this alternative would require the same level of ground disturbance outside of the SE Borrow Site where these features exist. Impacts associated with conflicts with local plans and policies (Impact BIO-10) would be the same as those described for the Proposed Project. PG&E would implement the same mitigation measures described for the Proposed Project to ensure that impacts are reduced to less than significant under Alternative 4.

Biological Resources – Marine

Under the Firing Range Minimum Earthwork Alternative, in-water and offshore decommissioning activities would continue in the same manner as the Proposed Project. As a result, impacts to marine biological resources would not differ from the Proposed Project. Therefore, impacts to marine biological resources from this alternative would be similar to those described for MBIO-1 through MBIO-5 from activities that were identified to have potential marine biological impacts (e.g., Waste Transportation, Discharge Structure Removal and Restoration, Water Management, Intake Structure Closure, and Marina Reuse).

Cultural Resources – Archaeology

The Firing Range Minimum Earthwork Alternative would not require ground disturbance at the SE Borrow Site. While ground disturbance at the DCPP site under this alternative would decrease, this alternative would require the same level of ground disturbance as the Proposed Project outside of the SE Borrow Site, resulting in the same potential in the remaining portion of the Proposed Project site to encounter unknown buried cultural resources that could be evaluated

as significant; and the same potential to affect a known cultural resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area.

Mitigation measures, which have been identified for the Proposed Project, include MM CUL-1 (*Retain a County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas for Marina Operations*), and MM CUL-12 (*Discovery of Human Remains*). These measures would lessen the overall impact, but not to a less-than-significant level. Like the Proposed Project, impacts to historical resources (Impact CUL-1), unique archaeological resources (Impact CUL-2), and human remains (Impact CUL-3) would remain significant and unavoidable. However, impacts under this alternative would be less severe because of the reduced ground disturbance.

Cultural Resources – Built Environment

With no designated or eligible historic-age resources within the DCPP site, the Firing Range Minimum Earthwork Alternative would result in no impacts to built environment resources (Impact CUL-1), like the Proposed Project.

Cultural Resources – Tribal Cultural Resources

The Firing Range Minimum Earthwork Alternative would not require ground disturbance at the SE Borrow Site. While ground disturbance under this alternative would decrease, this alternative would require the same level of ground disturbance as the Proposed Project outside of the SE Borrow Site, resulting in the same potential in the remaining portion of the DCPP site to encounter unknown buried cultural resources that could be considered Tribal Cultural Resources and could be evaluated as significant; and the same potential to affect a known Tribal Cultural Resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area.

MMs CUL-1 through CUL-12 would lessen the overall impact, however, not to a less-than-significant level. Like the Proposed Project, impacts to Tribal Cultural Resources (Impact TCR-1) would remain significant and unavoidable. However, impacts under this alternative would be less severe because of the reduced ground disturbance.

Energy

The energy impacts from this alternative would be lower than the Proposed Project as less earthwork would be required at the DCPP site, so less energy would be consumed to decommission the DCPP site. Like the Proposed Project, impacts would be less than significant for Impact EN-1 and Impact EN-2.

Geology, Soils, Paleontological Resources, and Coastal Processes

Impacts to geology and soils under the Firing Range Minimum Earthwork Alternative would not differ from the Proposed Project (Impact GEO-1). MM GEO-1 (*Geologic Hazard Assessment and Geotechnical Investigation*) and MM GEO-2 (*Seismic Hazard and Coastal Processes Assessment of Discharge Structure*) identified for the Proposed Project would reduce impacts from this alternative to less than significant.

Impacts associated with erosion under this alternative would be considerably reduced compared to the Proposed Project (Impact GEO-2), as earthwork would be minimized to achieve close to natural conditions. Under this alternative, approximately 5.8 acres of disturbance would occur compared to 7.2 acres under the Proposed Project. Additionally, the approximately 18.6 acres of ground disturbance at the SE borrow site would not be necessary.

As described in Table 2-6, Full Backfill Cut and Fill Estimate, approximately 57,124 CY of fill taken from the SE Borrow Site would be placed as fill in the Firing Range area for the Proposed Project. Under this alternative, considerably less cut and fill (114,248 CY) would be used compared to the Proposed Project as well as implementation of the site-specific SWPPP and CGP (ACs BIO-3 and WQ-1); thus, erosion impacts would be reduced. MM HWQ-1 (*Prepare and Implement Drainage Plans*) and MM HWQ-2 (*Long-Term Erosion and Sediment Control Plan*) would ensure impacts from this alternative are less than significant.

Impacts to paleontological resources with this alternative would be less than the Proposed Project (Impact GEO-3), as the SE Borrow Site would not be used. Impacts would be less than significant. Impacts related to having soils incapable of adequately supporting the use of septic tanks would not differ from the Proposed Project and impacts would be less than significant (Impact GEO-4).

Under the Firing Range Minimum Earthwork Alternative, activities in the coastal zone at the DCPP site would not differ from the Proposed Project. Therefore, impacts related to coastal processes would be the same as the Proposed Project.

Greenhouse Gas Emissions

The GHG emissions generated from the Firing Range Minimum Earthwork Alternative would be slightly lower than the Proposed Project, as less earthwork would be required saving approximately 3,800 one-way on-site truck trips between the SE Borrow Site and the Firing Range, generating fewer GHG emissions. Impact GHG-1 would be significant but mitigated to a less-than-significant level with implementation of MM GHG-1 (*Reduce GHG Emissions or Surrender Offset Credits*). Like the Proposed Project, this alternative would not conflict with GHG emissions reductions plans, policies, or regulations (Impact GHG-2).

Hazardous and Radiological Materials

Impacts from non-radiological hazardous waste under Alternative 4 would be very similar to those under the Proposed Project (Impacts HAZ-1 through HAZ-7), as the only difference is with the level of earth movement. Not using the SE Borrow Site would potentially lessen the severity of impacts related to exposure to Valley Fever (Impact HAZ-3). With MM HAZ-1 (*Facility Hazardous Waste Permit Extension*), MM HAZ-2 (*Worker Registration/ Certification*) and MM

HAZ-3 (*Soil and Groundwater Site Characterization Work Plan*), as well as MM HWQ-1 (*Long-Term Erosion and Sediment Control Plan*), MM HWQ-2 (*Clean Marina Provisions*), MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) and MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*), non-radiological hazardous material impacts under this alternative would be less than significant. Impacts from radiological materials (Impacts HAZ-8 through HAZ-12) would not change because of this alternative and would remain less than significant.

Hydrology and Water Quality

Alternative 4 would avoid use of the SE Borrow Site, which would reduce the potential for erosion and sedimentation or alteration of drainage patterns in that area but would continue to use fill material generated on site and reuse clean, crushed concrete derived from the demolition of structures to fill the Firing Range and other areas of the DCPP site. The same soil and water management plans and mitigation measures would be required to reduce hydrology and water quality impacts to less than significant.

Land Use and Planning

Transport activities under Alternative 4 could temporarily limit public access along the proposed routes in a manner that is similar to the Proposed Project. As discussed for the Proposed Project, MM TRA-1 *(Truck Transportation Outside of Peak Hours),* MM TRA-2 *(Specialty Heavy-Haul Transport Vehicle Transportation Management Plan),* MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), and MM TRA-5 (*Quarterly Decommissioning Updates*) would be implemented to minimize land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle TMP, and ongoing notifications to affected land uses. There would be no new impacts associated with disruptions or displacement of land uses under this alternative that would require additional mitigation. Impact LUP-1 would remain less than significant with mitigation. None of the activities under this alternative would extend into adjacent agricultural lands, and there would be no impact to agricultural resources (Impact LUP-2).

Noise

While on-site earthwork associated with the Firing Range would be reduced and trucks hauling dirt from the SE Borrow Site would be eliminated, temporary construction noise and vibration levels for onshore decommissioning at DCPP would continue to be similar to those discussed in Impacts NOI-1 through NOI-3 for the Proposed Project.

Public Services and Utilities

Less trucking would occur under this alternative and potentially reduce the number of employees and commutes at the DCPP site, resulting in fewer impacts to emergency service response times (Impact PSU-1) compared to the Proposed Project. Impacts relating to new or relocated utilities (Impact PSU-2), water supplies and wastewater (Impacts PSU-3 and PSU-4), solid waste (Impact PSU-5), and solid waste regulations (Impact PSU-6) would remain the same as the Proposed Project. Therefore, impacts would remain less than significant with mitigation for Impact PSU-1 and less than significant for Impacts PSU-1 through PSU-6.

Recreation and Public Access

Impacts to public access and recreation under the Firing Range Minimum Earthwork Alternative would be identical to the Proposed Project, as the changes under this alternative are related to not using the on-site SE Borrow Site. Off-site truck trips would be the same as the Proposed Project under this alternative and would continue to temporarily interfere with access to local trails or recreational areas along Avila Beach Drive. Like the Proposed Project, with implementation of MM REC-1 (*Commercial Fishing Operations Access Plan for Avila Beach Drive*), along with MM EM-2 (*Project Plan, Updating, Tracking, and Reporting*), and MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and TRA-7 (*Coordination with Harbormasters*) impacts would be less than significant with mitigation related to permanent, temporary or intermittent roadway, parking, or trail closures (Impact REC-1); restricted access to the coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways (Impact REC-2); and exposure of recreational users to hazards (Impact REC-4). Similarly, like the Proposed Project, impacts would be less than significant related to the increased use or construction or expansion of recreational facilities (Impact REC-3).

Transportation

Ground Transportation. The Firing Range Minimum Earthwork Alternative would avoid utilizing the SE Borrow Site and would balance cut and fill from the DCPP site. This would potentially reduce the distance necessary for trucks to transport materials and would lead to a slight reduction in truck VMT. This alternative would reduce the number of employees and commutes at the DCPP site, reducing VMT. This staffing reduction would be the same as the Proposed Project and mitigated with MM TRA-1 (*Truck Transportation Outside of Peak Hours*) (Impact TRA-1).

The changes in cut and fill assumptions under Alternative 4 would not result in incompatible uses (Impact TRA-2) or alter roadway conditions in a way that would result in inadequate emergency access (Impact TRA-3), such that impacts would be the same as the Proposed Project and would include implementation of MM TRA-1 (*Truck Transportation Outside of Peak Hours)*, MM TRA-2 *(Specialty Heavy-Haul Transport Vehicle Transportation Management Plan),* MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and MM TRA-6 (*Diablo Creek Crossing Structure Inspection and Repair*).

Marine Transportation. Similar to the Proposed Project, this alternative would also require barge trips for the export of waste (up to 28 round trips, where each tug pulls two barges for a total of 55 barges, over a 4-year timeframe during Period 1B [2030-2033]); the transport of gravel from the Port of Long Beach to fill the Discharge Structure cofferdam (up to 15 round trips during Period 1A [2024-2029]); and the transport of quarry rock sourced from the Connolly-Pacific Co. Quarry on Santa Catalina Island to fill the void left in the bluff following removal of the Discharge Structure (three barge trips during Period 1B [2030-2033]). The number of barge trips would be the same under both the Proposed Project and this alternative. Therefore, under this alternative,

offshore marine transportation impacts related to marine vessel safety would be the same as the Proposed Project and would be less than significant with implementation of MM TRA-7 (*Coordination with Harbormasters*) and MM TRA-8 (*Marine Surveyor Assessment*) (Impact TRA-4). Like the Proposed Project, barge transport associated with this alternative would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

Wildfire

Under the Firing Range Minimum Earthwork Alternative, impacts to emergency response and evacuation (Impact WF-1) would be reduced, as fewer trucks would be needed to transport soil and other fill material to the Firing Range from the SE Borrow Site. Fire risks associated with the installation or maintenance of infrastructure (Impact WF-3) would remain the same. Because this alternative would result in fewer cut impacts to native hills, this alternative would be less likely to exacerbate risks due to post-fire slope instability (Impacts WF-2 and WF-4), as the existing slope of surrounding hills would remain largely intact.

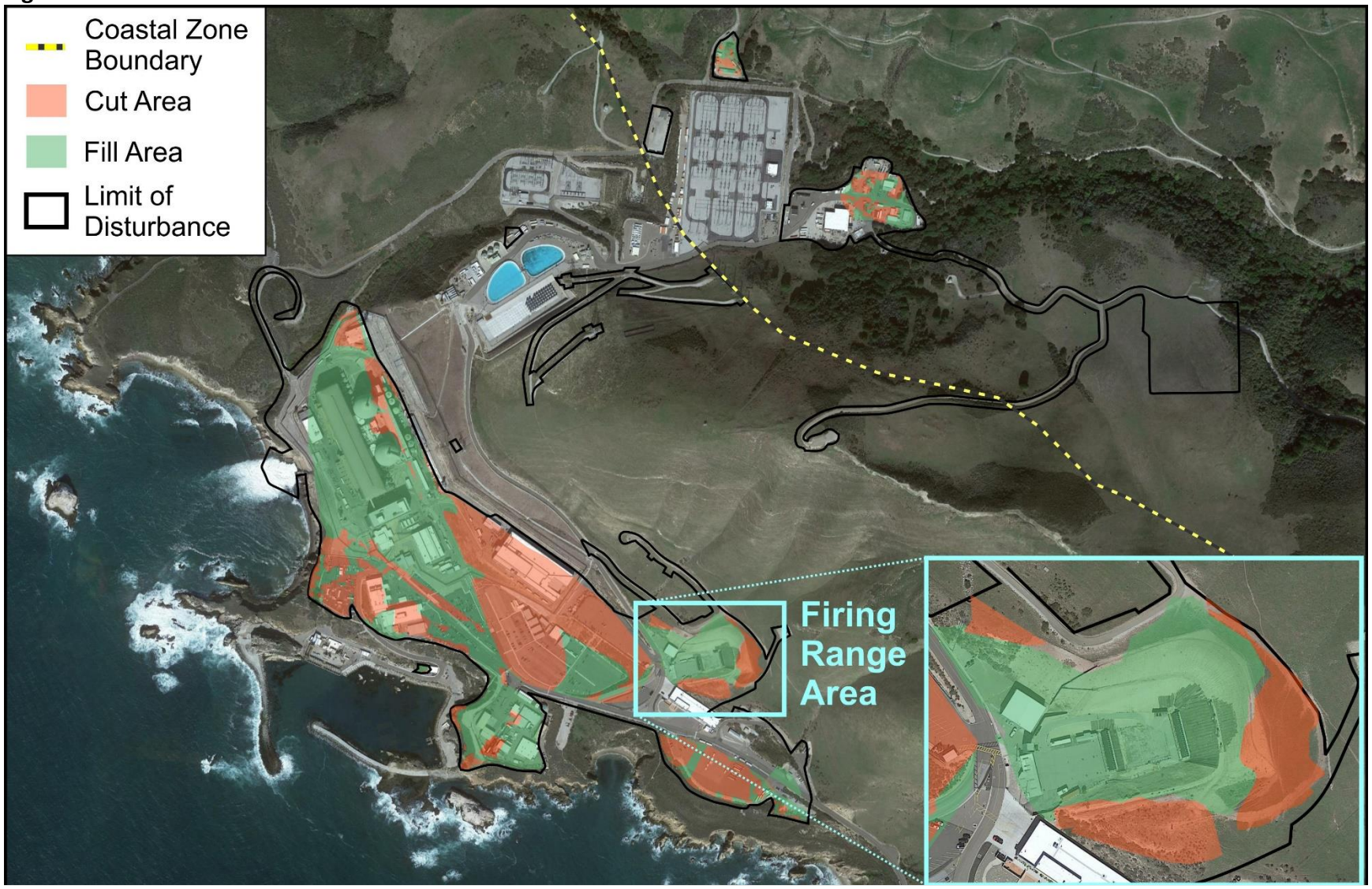
5.4.5 Alternative 5: Firing Range Partial Backfill Alternative

5.4.5.1 Alternative 5 Description

This alternative would mimic natural conditions to promote positive drainage and back fill voids created by demolition of DCPP structures. Additional cut would be generated near the existing Firing Range (see Figure 5-9), which when combined with the excess cut generated from site grading, would provide additional fill material for partial backfill of the existing Firing Range area (see Figure 5-10). Alternative 5 would result in approximately 6.2 acres of disturbance, and approximately 105,536 CY of earthwork (9,224 CY cut; 86,312 CY fill plus ~10,000 cy export) in the area of the existing Firing Range (ERM, 2022). Table 5-4 also accounts for the filling of void spaces created by demolition and removal of the concrete foundations associated with existing structures as well as void space created by the planned removal of impacted soil. This alternative would be achieved without on-site (e.g., the SE Borrow Site) or off-site borrow sources, and therefore, would reduce cut impacts to native hills. There would be no changes related to the railyards; therefore, the discussions below focus on the DCPP site.

Figure 5-9. Hillside South of Firing Range Proposed for Cut

Figure 5-10. Alternative 5 – Partial Backfill



Source: ERM, 2022 – Scenario 2.

Table 5-4. Alternative 5 Firing Partial Backfill Alternative Cut and Fill Estimate			
Item	**Coastal Zone**	**Inland Zone**	**Site Total**
I. CUT/FILL BALANCE			
A) Volume of Fill for Void Areas (cubic yards)			
a) Structural Demolition – Volume Resulting from Structure Removal:			
i) Reactor 1	22,830	0	22,830
ii) Reactor 2	22,830	0	22,830
iii) Auxiliary Building	33,316	0	33,316
iv) Turbine Buildings	25,866	0	25,866
v) Excavation Depth of Buildings (assumes 3 feet below existing ground surface)	27,943	3,927	31,871
vi) Water Circulation Tunnels [1]	34,244	0	34,244
vii) Intake Structure	11,840	0	11,840
viii) Discharge Structure	16,775	0	16,775
Structural Demolition – Volume resulting from structure removal (i+ii+iii+iv+v+vi+vii+viii):	*195,644*	*3,927*	*199,572*
b) Earthwork – Volume Resulting from Export of Impacted Soil:			
i) Radiologically Contaminated Areas	15,930	0	15,930
ii) Transformer and UST Area	10,000	0	10,000
iii) Existing Firing Range Contaminated Areas	10,000	0	10,000
Earthwork – Volume resulting from export of impacted soil (i+ii+iii):	*35,930*	*0*	*35,930*
c) Earthwork – Soil Fill Volume Resulting from Grading Operations: [2]			
i) Firing Range Restoration	86,312	0	86,312
ii) Site Restoration (excludes Firing Range & SE Borrow Site)	300,714	1,946	302,660
iii) SE Borrow Site	0	0	0
iv) Discharge Structure (native soil)	2,215	0	2,215
Earthwork – Soil fill volume resulting from grading operations (i+ii+iii+iv):	*389,241*	*1,946*	*391,187*
Volume of Fill for Void Areas (a+b+c):	***620,815***	***5,873***	***626,689***
B) Volume of Cut Soils and Other Fill Materials (cubic yards)			
a) Earthwork – Soil Cut Volume Resulting from Grading Operations:			
i) Firing Range Restoration	9,224	0	9,224
ii) Site Restoration (excludes Firing Range & SE Borrow Site)	335,482	633	336,115
iii) SE Borrow Site	0	0	0
iv) Discharge Structure (native soil)	2,215	0	2,215
Earthwork – Soil cut volume resulting from grading operations (i+ii+iii+iv):	*346,921*	*633*	*347,554*
b) Volume of Recycled Crushed Concrete Derived from Site Demolition:			
iii) Clean concrete aggregate available for reuse in CLSM [1]	30,500	0	30,500
iv) Clean concrete aggregate available for reuse with soil [3]	165,695	0	165,695
Volume of recycled crushed concrete derived from site demolition (i+ii)	*196,195*	*0*	*196,195*
c) Volume of Non-Soil Imported Materials:			
iv) Discharge Structure Restoration (quarry rock)	16,775	0	16,775
v) Cofferdam, excess materials (gravel and concrete)	30,610	0	30,610

Table 5-4. Alternative 5 Firing Partial Backfill Alternative Cut and Fill Estimate			
Item	**Coastal Zone**	**Inland Zone**	**Site Total**
vi) CLSM imported components (sand, cement, etc.)	15,584	0	15,584
Non-Earthwork – Volume of imported rock (i+ii+iii)	*62,969*	*0*	*62,969*
Volume of Cut Soils and Other Fill Materials (a+b+c)	***606,085***	***633***	***606,718***
Net Cut (+) / Fill (-) Balance (A-B)	***-14,730***	***-5,240***	***-19,971***
II. EARTHWORK QUANTITY (Per County Titles 22 and 23)			
A) Volume of Fill (cubic yards)			
a) Export of impacted soil (I.A.b)			35,930
b) Grading operations (I.A.c)			391,187
Volume of Fill (a+b)			*427,117*
B) Volume of Cut (cubic yards)			
a) Grading operations (I.B.a)			347,554
b) Imported topsoil [4]			35,000
Volume of Cut (a+b)			*382,554*
Earthwork Quantity (A+B)			***809,671***
Estimated area of site disturbance, including soil disturbance and vegetation removal (acres): 96			

Source: ERM, 2022 – Earthwork Quantities (as edited by County); PG&E, 2022j –Sheet G-02 – Limits of Disturbance.
Acronyms: UST = Underground Storage Tank; CSLM = controlled low strength material

[1] Clean, crushed concrete generated from structure demolition would be used to create controlled low strength material (CLSM) used to fill the void volume of the water circulation tunnels and Intake Structure. The CLSM may consist of up to two-thirds clean, crushed concrete, or approximately 30,500 CY. The total void volume of the tunnels is 34,244 CY. The total void volume of the Intake Structure is 11,840 CY.

[2] The volume of clean concrete aggregate available for reuse is based on applying a volume increase of 20 percent to the volume of clean concrete generated from structure demolition. The volume increase is not applied to the quantity of clean, crushed concrete used to create CLSM for filling the water circulation tunnels and the Intake Structure since this concrete may be processed differently and therefore not experience the same bulking factor.

[3] The volume of soil fill represents the quantity of material required to fill the slopes, parking lots, and other areas. The "volume of soil fill", "volume of void space resulting from the removal of impacted soil", and "volume of void space resulting from structure demolition" together comprise the volume of total fill required to achieve the final grades within the grading plan (PG&E, 2021c – PD-6).

5.4.5.2 Environmental Impact Analysis

The impacts of the Firing Range Partial Backfill Alternative compared to the Proposed Project are described below.

Aesthetics

The Firing Range Partial Backfill Alternative would restore the DCPP to a more natural state than Alternative 4, but it would not fully restore the natural contour of the site as under the Proposed Project. As the location and types of activities occurring under this alternative would be the same as the Proposed Project, potential impacts to a scenic vista (Impact AES-1) and to the visual character and quality of the DCPP site (Impact AES-3) would remain less than significant, and potential impacts to a scenic resource (Impact AES-2) would not occur. The visual quality of the DCPP site would improve from existing conditions during Phase 2, although slightly less than under the Proposed Project. The SE Borrow Site would not be needed in this alternative, avoiding disturbance of a natural slope that is visible from within the DCPP site. As the types of activities would result in similar light and glare impacts as the Proposed Project, Impact AES-4 would

remain less than significant (Class III) at the DCPP site and less than significant with mitigation (Class II) at the SMVR-SB railyard site.

Air Quality

Due to the reduced earthwork involved in restoring the area of the existing Firing Range under Alternative 5, criteria air pollutant and fugitive dust emissions would be lower than those from the Proposed Project but higher than Alternative 4. Like the Proposed Project, the unmitigated emissions would be significant, and MM AQ-1 (*Implement a Decommissioning Activity Management Plan*) and MM AQ-2 (*Provide Funding for Off-site Mitigation of Equipment Emissions*) would be required to reduce ozone precursor and PM10 emissions (Impact AQ-2) and impacts on sensitive receptors (Impact AQ-3) to levels that would be less than significant. This alternative, like the Proposed Project would have less-than-significant impacts related to local air quality plan conformity (Impact AQ-1) and odor impacts (Impact AQ-4).

Biological Resources – Terrestrial

The Firing Range Partial Backfill Alternative would not require ground disturbance at the SE Borrow Site or oak and other native mature tree trimming along the access road to the SE Borrow Site. However, this alternative would require approximately one-half acre of additional ground disturbance immediately adjacent to the existing Firing Range; an area which includes native coyote brush scrub and wild oats and annual brome grass habitat. As such, impacts from the permanent and temporary loss of native vegetation (Impact BIO-1) and the introduction of noxious and invasive weeds (Impact BIO-2) would be similar at the DCPP site compared to the Proposed Project. Impacts to nesting birds (Impact BIO-4), special-status plants (Impact BIO-5), and special-status wildlife (Impact BIO-6) at the DCPP site would be the same as those discussed for the Proposed Project. Impacts to ESHAs (Impact BIO-7) and jurisdictional features (Impact BIO-8) would not differ from the Proposed Project since this alternative would require the same level of ground disturbance within areas defined as ESHAs. Impacts associated with conflicts with local plans and policies (Impact BIO-10) would be the same as those described for the Proposed Project. PG&E would implement the same mitigation measures described for the Proposed Project to ensure that impacts are reduced to less than significant under Alternative 5.

Biological Resources – Marine

Under the Firing Range Partial Backfill Alternative, in-water and offshore decommissioning activities would continue in the same manner as the Proposed Project. As a result, impacts to marine biological resources would not differ from the Proposed Project. Therefore, impacts to marine biological resources from this alternative would be similar to those described for MBIO-1 through MBIO-5 from activities that were identified to have potential marine biological impacts (e.g., Waste Transportation, Discharge Structure Removal and Restoration, Water Management, Intake Structure Closure, and Marina Reuse).

Cultural Resources – Archaeology

The Firing Range Partial Backfill Alternative would not require ground disturbance at the SE Borrow Site but would disturb an additional area adjacent and south of the Firing Range. While ground disturbance at the DCPP site under this alternative would slightly decrease, this alterna-

tive would require a similar level of ground disturbance as the Proposed Project, resulting in the same potential in the remaining portion of the Proposed Project site to encounter unknown buried cultural resources that could be evaluated as significant; and the same potential to affect a known cultural resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area.

Mitigation measures, which have been identified for the Proposed Project, include MM CUL-1 (*Retain a County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas for Marina Operations*), and MM CUL-12 (*Discovery of Human Remains*). These measures would lessen the overall impact, but not to a less-than-significant level. Like the Proposed Project, impacts to historical resources (Impact CUL-1), unique archaeological resources (Impact CUL-2), and human remains (Impact CUL-3) would remain significant and unavoidable. However, impacts under this alternative would be less severe because of the reduced ground disturbance.

Cultural Resources – Built Environment

With no designated or eligible historic-age resources within the DCPP site, the Firing Range Partial Backfill Alternative would result in no impacts to built environment resources (Impact CUL-1), like the Proposed Project.

Cultural Resources – Tribal Cultural Resources

The Firing Range Partial Backfill Alternative would not require ground disturbance at the SE Borrow Site but would disturb an additional area adjacent and south of the Firing Range. While ground disturbance under this alternative would slightly decrease, this alternative would require a similar level of ground disturbance as the Proposed Project, resulting in the same potential to encounter unknown buried cultural resources that could be considered Tribal Cultural Resources and could be evaluated as significant; and the same potential to affect a known Tribal cultural Resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area.

MMs CUL-1 through CUL-12 would lessen the overall impact, however, not to a less-than-significant level. Like the Proposed Project, impacts to Tribal Cultural Resources (Impact TCR-1) would remain significant and unavoidable. Although, impacts under this alternative would be less severe because of the reduced ground disturbance.

Energy

The energy impacts from the Firing Range Partial Backfill Alternative would be lower than the Proposed Project, as less earthwork at the DCPP site would be required, resulting in less energy

consumption, but more than Alternative 4. Like the Proposed Project, impacts would be less than significant for Impact EN-1 and Impact EN-2.

Geology, Soils, Paleontological Resources, and Coastal Processes

Impacts to geology and soils under the Firing Range Partial Backfill Alternative would not differ from the Proposed Project (Impact GEO-1). MM GEO-1 (*Geologic Hazard Assessment and Geotechnical Investigation*) and MM GEO-2 (*Seismic Hazard and Coastal Processes Assessment of Discharge Structure*) identified for the Proposed Project would reduce impacts from this alternative to less than significant.

Impacts associated with erosion under this alternative would be reduced compared to the Proposed Project (Impact GEO-2), as the SE Borrow Site would not be used, and more localized borrow material from the hillside south of the Firing Range would instead be utilized. Under this alternative, approximately 6.2 acres of disturbance would occur compared to 7.2 acres under the Proposed Project.

As described in Table 2-6, Full Backfill Cut and Fill Estimate, approximately 57,124 CY of fill taken from the SE Borrow Site would be placed as fill in the Firing Range area for the Proposed Project. Under this alternative, considerably less cut and fill (114,248 CY) would be used compared to the Proposed Project as well as implementation of the site-specific SWPPP and CGP (ACs BIO-3 and WQ-1); thus, erosion impacts would be reduced. MM HWQ-1 (*Prepare and Implement Drainage Plans*) and MM HWQ-2 (*Long-Term Erosion and Sediment Control Plan*) would ensure impacts from this alternative are less than significant.

Impacts to paleontological resources with this alternative would be less than the Proposed Project (Impact GEO-3), as the SE Borrow Site would not be used. Impacts would be less than significant. Impacts related to having soils incapable of adequately supporting the use of septic tanks would not differ from the Proposed Project and impacts would be less than significant (Impact GEO-4).

Under the Firing Range Partial Backfill Alternative, activities in the coastal zone at the DCPP site would not differ from the Proposed Project. Therefore, impacts related to coastal processes would be the same as the Proposed Project.

Greenhouse Gas Emissions

The GHG emissions generated from the Firing Range Partial Backfill Alternative would be slightly lower than the Proposed Project, as less earthwork would be required saving approximately 3,800 one-way on-site truck trips between the SE Borrow Site and the Firing Range, generating fewer GHG emissions, but more than Alternative 4. Impact GHG-1 would be mitigated to a less-than-significant level with implementation of MM GHG-1 (*Reduce GHG Emissions or Surrender Offset Credits*). Like the Proposed Project, this alternative would not conflict with GHG emissions reductions plans, policies, or regulations (Impact GHG-2).

Hazardous and Radiological Materials

Impacts from non-radiological hazardous waste under Alternative 4 would be very similar to those under the Proposed Project (Impacts HAZ-1 through HAZ-7), as the only difference is with

the level of earth movement. Not using the SE Borrow Site would potentially lessen the severity of impacts related to exposure to Valley Fever (Impact HAZ-3). With MMs HAZ-1 through HAZ-3, MMs HWQ-1 and HWQ-2, and MMs PSU-1 and PSU-2, non-radiological hazardous material impacts under this alternative would be less than significant. Impacts from radiological materials (Impacts HAZ-8 through HAZ-12) would not change because of this alternative and would remain less than significant.

Hydrology and Water Quality

Alternative 5 would avoid use of the SE Borrow Site, which would reduce the potential for erosion and sedimentation or alteration of drainage patterns in that area and reduce on-site truck hauling by up to 3,800 one-way trips. However, Alternative 5 would continue to use fill material generated on site and reuse clean, crushed concrete derived from the demolition of structures to fill the Firing Range and other areas of the DCPP site. The same soil and water management plans and mitigation measures would be required to reduce hydrology and water quality impacts to less than significant.

Land Use and Planning

Transport activities under Alternative 5 could temporarily limit public access along the proposed routes in a manner that is similar to the Proposed Project. As discussed for the Proposed Project, MM TRA-1 through MM TRA-5 would be implemented to minimize land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle TMP, and ongoing notifications to affected land uses. There would be no new impacts associated with disruptions or displacement of land uses under this alternative that would require additional mitigation. Impact LUP-1 would remain less than significant with mitigation. None of the activities under this alternative would extend into adjacent agricultural lands, and there would be no impact to agricultural resources (Impact LUP-2).

Noise

While on-site earthwork associated with the Firing Range would be reduced (but not as much as under Alternative 4) and trucks hauling dirt from the SE Borrow Site would be eliminated compared to the Proposed Project, temporary construction noise and vibration levels for onshore decommissioning at DCPP would continue to be similar overall to those discussed in Impacts NOI-1 through NOI-3 for the Proposed Project.

Public Services and Utilities

Less trucking would occur under the Firing Range Partial Backfill Alternative and potentially reduce the number of employees and commutes to the DCPP site, resulting in fewer impacts to emergency service response times (Impact PSU-1) compared to the Proposed Project. Impacts relating to new or relocated utilities (Impact PSU-2), water supplies and wastewater (Impacts PSU-3 and PSU-4), solid waste (Impact PSU-5), and solid waste regulations (Impact PSU-6) would remain the same as the Proposed Project. Therefore, impacts would remain less than significant with mitigation for Impact PSU-1 and less than significant for Impacts PSU-1 through PSU-6.

Recreation and Public Access

Impacts to public access and recreation under the Firing Range Partial Backfill Alternative would be identical to the Proposed Project, as the changes under this alternative are related to not using the on-site SE Borrow Site and use of additional soil cut from an area immediately adjacent to the Firing Range. Off-site truck trips would be the same as the Proposed Project under this alternative and would continue to temporarily interfere with access to local trails or recreational areas along Avila Beach Drive. Like the Proposed Project, with implementation of MM REC-1 (*Commercial Fishing Operations Access Plan for Avila Beach Drive*), along with MM EM-2 (*Project Plan, Updating, Tracking, and Reporting*), and MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and TRA-7 (*Coordination with Harbormasters*) impacts would be less than significant with mitigation related to permanent, temporary or intermittent roadway, parking, or trail closures (Impact REC-1); restricted access to the coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways (Impact REC-2); and exposure of recreational users to hazards (Impact REC-4). Similarly, like the Proposed Project, impacts would be less than significant related to the increased use or construction or expansion of recreational facilities (Impact REC-3).

Transportation

Ground Transportation. The Firing Range Partial Backfill Alternative would avoid utilizing the SE Borrow Site and would balance cut and fill from the DCPP site. This would potentially reduce the distance necessary for trucks to transport materials and would lead to a slight reduction in truck VMT. This alternative would reduce the number of employees and commutes at the DCPP site, reducing VMT. This staffing reduction would be the same as the Proposed Project and mitigated with MM TRA-1 (*Truck Transportation Outside of Peak Hours*) (Impact TRA-1).

The changes in cut and fill assumptions under Alternative 5 would not result in incompatible uses (Impact TRA-2) or alter roadway conditions in a way that would result in inadequate emergency access (Impact TRA-3), such that impacts would be the same as the Proposed Project and would include the implementation of MM TRA-1 *(Truck Transportation Outside of Peak Hours),* MM TRA-2 *(Specialty Heavy-Haul Transport Vehicle Transportation Management Plan),* MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and MM TRA-6 (*Diablo Creek Crossing Structure Inspection and Repair*).

Marine Transportation. Similar to the Proposed Project, this alternative would also require barge trips for the export of waste (up to 28 round trips, where each tug pulls two barges for a total of 55 barges, over a four-year timeframe during Period 1B [2030-2033]); the transport of gravel from the Port of Long Beach to fill the Discharge Structure cofferdam (up to 15 round trips during Period 1A [2024-2029]); and the transport of quarry rock sourced from the Connolly-Pacific Co. Quarry on Santa Catalina Island to fill the void left in the bluff following removal of the Discharge Structure (three round trips during Period 1B [2030-2033]). The number of barge trips would be the same under both the Proposed Project and this alternative. Therefore, under this alternative, offshore marine transportation impacts related to marine vessel safety would be the same as the

Proposed Project and would be less than significant with implementation of MM TRA-7 (*Coordination with Harbormasters*) and MM TRA-8 (*Marine Surveyor Assessment*) (Impact TRA-4). Like the Proposed Project, barge transport associated with this alternative would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

Wildfire

Under the Firing Range Partial Backfill Alternative, impacts to emergency response and evacuation (Impact WF-1) would be reduced, as fewer trucks would be needed to transport soil and other fill material to and from the DCPP site. Fire risks associated with the installation or maintenance of infrastructure (Impact WF-3) would remain the same. Because this alternative would result in fewer cut impacts to native hills, this alternative would be less likely to exacerbate risks due to post-fire slope instability (Impacts WF-2 and WF-4), as the existing slope of surrounding hills would remain largely intact.

5.4.6 Alternative 6: No Waste by Rail Alternative

5.4.6.1 Description

For this alternative all decommissioning waste would be transported by truck or barge; no waste would be transported by rail. As such, the 99 truck trips slated to be sent to the SMVR-SB railyard, totaling approximately 8,300 tons (see Table 2-8), would instead be shipped by truck to Energy Solutions Clive, Utah or Waste Control Specialists, Andrews, Texas. Additionally, it is possible more truck trips could be required to ensure trucks can traverse the roadways and bridges between the DCPP site and these end destinations; otherwise, bridge upgrades could be required. All other aspects of this alternative would be identical to the Proposed Project.

5.4.6.2 Environmental Impact Analysis

The impacts of the No Waste by Rail Alternative compared to the Proposed Project are described below.

Aesthetics

As proposed decommissioning activities within the DCPP site would not substantially change under this alternative, Impact AES-1 would remain less than significant within Port San Luis Harbor, Impact AES-2 would remain no impact, and Impact AES-3 would remain less than significant within the DCPP site. This alternative would not require mitigation to reduce nighttime lighting impacts, as there would be no overnight activities at the SMVR-SB railyard. Therefore, Impact AES-4 would be eliminated at the railyards and would remain less than significant (Class III) at the DCPP site.

Air Quality

Air pollutant emissions from the No Waste by Rail Alternative are anticipated to be lower than the Proposed Project in Santa Barbara County, as there would be no construction or operational emissions at the SMVR-SB railyard. Air pollutant emissions would be slightly more in San Luis Obispo County, as the same trucks would leave the DCPP site to haul away material but would travel longer distances within San Luis Obispo County (PG&E, 2022d). Emissions would also be

greater in other counties (other than San Luis Obispo and Santa Barbara County) due to more truck travel. Like the Proposed Project, the unmitigated emissions in SLO County would be significant, and MM AQ-1 (*Implement a Decommissioning Activity Management Plan*) and MM AQ-2 (*Provide Funding for Off-site Mitigation of Equipment Emissions*) would be required to reduce ozone precursor and PM10 emissions (Impact AQ-2) and impacts on sensitive receptors (Impact AQ-3) to less-than-significant levels. Like the Proposed Project, this alternative would have less-than-significant impacts related to local air quality plan conformity (Impact AQ-1) and odor impacts (Impact AQ-4).

Biological Resources – Terrestrial

The No Waste by Rail Alternative would remove the potential for impacts to terrestrial biological resources at the railyard facilities since they would not be utilized under this alternative. Impacts from the permanent and temporary loss of vegetation (Impact BIO-1) and the introduction and spread of noxious and invasive species (Impact BIO-2) would be the same at the DCPP site compared to the Proposed Project under this alternative. Impacts to nesting birds (Impact BIO-4) and special-status species (Impacts BIO-5 and BIO-6) would be slightly reduced since the railyards and adjacent habitats would not be subject to increased levels of noise and fugitive dust from Project activities. Impacts associated with conflicts with local plans and policies (Impact BIO-10) would be the same as those described for the Proposed Project. PG&E would implement the same mitigation measures described for the Proposed Project to ensure that impacts are reduced to less than significant under the No Waste by Rail Alternative.

Biological Resources – Marine

Impacts to marine biological resources from the No Waste by Rail Alternative would not differ from the Proposed Project because in-water and offshore decommissioning activities would continue in the same manner as the Proposed Project. Therefore, impacts to marine biological resources from this alternative would be similar to those described for MBIO-1 through MBIO-5 from activities that were identified to have potential marine biological impacts (e.g., Waste Transportation, Discharge Structure Removal and Restoration, Water Management, Intake Structure Closure, and Marina Reuse).

Cultural Resources – Archaeology

The No Waste by Rail Alternative would involve slightly less ground disturbance than the Proposed Project because no disturbance would occur at the railyards. While ground disturbance under this alternative would decrease slightly, the railyards were not identified as areas that are sensitive for cultural resources, and no activities at the railyards would disturb native soils. This alternative would require the same level of ground disturbance as the DCPP site, resulting in the same potential to encounter unknown buried cultural resources that could be evaluated as significant; and the same potential to affect a known cultural resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area.

Mitigation measures, which have been identified for the Proposed Project, include MM CUL-1 (*Retain a County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a*

Project Osteologist), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas for Marina Operations*), and MM CUL-12 (Discovery of *Human Remains*). These measures would lessen the overall impact, but not to a less-than-significant level. Like the Proposed Project, impacts to historical resources (Impact CUL-1), unique archaeological resources (Impact CUL-2), and human remains (Impact CUL-3) would remain significant and unavoidable.

Cultural Resources – Built Environment

With no designated or eligible historic-age resources within the DCPP site, the No Waste by Rail Alternative would result in no impacts to built environment resources (Impact CUL-1), like the Proposed Project.

Cultural Resources – Tribal Cultural Resources

The No Waste by Rail Alternative would require slightly less ground disturbance than the Proposed Project because no disturbance would occur at the railyards. While ground disturbance under this alternative would decrease slightly, the railyards were not identified as areas that are sensitive for cultural resources, and no activities at the railyards would disturb native soils. This alternative would require the same level of ground disturbance at the DCPP site, resulting in the same potential to encounter unknown buried cultural resources that could be considered Tribal Cultural Resources and could be evaluated as significant; and the same potential to affect a known Tribal Cultural Resource (CA-SLO-2) during Phase 2 activities if soil remediation extends into native soils under the former sand blast area.

MMs CUL-1 through CUL-12 would lessen the overall impact, however, not to a less-than-significant level. Like the Proposed Project, impacts to Tribal Cultural Resources (Impact TCR-1) would remain significant and unavoidable.

Energy

The energy impacts from the No Waste by Rail Alternative would be similar to the Proposed Project, as construction and transfer of material would not occur at the railyards. However, material would still need to be transported out of state via truck instead of rail, which would use more energy per mile. Impacts, like the Proposed Project, would be less than significant for Impact EN-1 and Impact EN-2.

Geology, Soils, Paleontological Resources, and Coastal Processes

Impacts to geology, soils, and paleontological resources at the DCPP site under this alternative would not differ from the Proposed Project (Impacts GEO-1 through GEO-4). This alternative would not utilize the railyards, therefore no impact would occur at the rail sites.

Activities in the coastal zone would not differ from the Proposed Project, although more barge trips are possible, which would increase exposure of workers to coastal hazards and increase the

risk of pollutant release in the event of a seiche in the Intake Cove. The same mitigation would apply, and impacts would be like the Proposed Project.

Greenhouse Gas Emissions

The GHG impacts from the No Waste by Rail Alternative would be similar to the Proposed Project as no construction and transfer of material would occur at the railyards. However, material would still need to be transported out of state via truck instead of rail, which would emit more GHGs per mile traveled. Impact GHG-1 would be significant but mitigated to a less-than-significant level with implementation of MM GHG-1 (*Reduce GHG Emissions or Surrender Offset Credits*). Like the Proposed Project, this alternative would not conflict with GHG emissions reductions plans, policies, or regulations (Impact GHG-2).

Hazardous and Radiological Materials

This alternative would result in no impacts from non-radiological hazardous materials at the PBR and SMVR-SB site since no hazardous materials would be transported to the railyard facilities. Impacts at the DCPP would remain the same (Impacts HAZ-1 through HAZ-7). With MM HAZ-1 (*Facility Hazardous Waste Permit Extension*), MM HAZ-2 (*Worker Registration/ Certification*) and MM HAZ-3 (*Soil and Groundwater Site Characterization Work Plan*), as well as MM HWQ-1 (*Long-Term Erosion and Sediment Control Plan*), MM HWQ-2 (*Clean Marina Provisions*), MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) and MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*), impacts under this alternative would be less than significant. Impacts from radiological materials (Impacts HAZ-8 through HAZ-12) would be the same as the Proposed Project and would remain less than significant, with no impacts occurring at the railyards. As noted in Appendix G2 and the UCLA/PG&E study (PG&E, 2020b), the risks associated with transportation by truck or rail are very low and well below transportation safety standards so the transportation mode would not change impacts.

Hydrology and Water Quality

Under Alternative 6, accidental spills or leaks of gasoline, diesel fuel, oil, hydraulic fluid, lubricants, transmission fluid, and other fluids associated with heavy haul trucks, specialty transporters, and use of barges could increase because rail transport would not be used. This would result in a potential increase in impacts to water quality compared to the Proposed Project, including increased risk of pollutant release in the event of a seiche in the Intake Cove. The same soil and water management plans and mitigation measures would be required to reduce hydrology and water quality impacts to less than significant. No impacts would occur at the railyards.

Land Use and Planning

Under this alternative, waste transport for Phase 1 and Phase 2 would still occur by truck and barge. This alternative would avoid any public access impacts for the land uses along the railyard haul truck routes (Price Canyon Road, Bello Street, and Betteravia Road), and there would be no temporary impact in those areas. Regarding the management of construction-related traffic along the remaining transport routes (i.e., along Avila Beach Drive), MM TRA-1 *(Truck Transportation Outside of Peak Hours),* MM TRA-2 *(Specialty Heavy-Haul Transport Vehicle Transportation Management Plan),* MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance*

Notification of Decommissioning), and MM TRA-5 (*Quarterly Decommissioning Updates*) would be implemented to minimize land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle TMP, and ongoing notifications to affected land uses. There would be no new impacts associated with disruptions or displacement of land uses under this alternative that would require additional mitigation. Impact LUP-1 would remain less than significant with mitigation. None of the activities under this alternative would extend into adjacent agricultural lands, and there would be no impact to agricultural resources (Impact LUP-2).

Noise

Temporary construction noise and vibration levels for onshore decommissioning at DCPP would be the same as the Proposed Project for Impact NOI-1 through NOI-3. However, impacts associated with railyard modifications and operation of railyards to transport waste off site would be eliminated.

Public Services and Utilities

This alternative would result in no impact to public services and utilities at the railyard facilities since refurbishment activities and operations would not occur. However, the number of truck trips would increase, resulting in greater impacts to emergency service response times (Impact PSU-1). This represents an incremental increase in trucking activity compared to the Proposed Project over the course of several years. MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*), MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*), MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM TRA-1 (*Truck Transportation Outside of Peak Hours*), and MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*) would continue to reduce impacts to less than significant. Impacts of MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*) would remain the same as the Proposed Project. Road and bridge upgrades may be required to support the greater number of truck trips, thus potentially requiring modifications to the existing stormwater drainage infrastructure along truck routes (Impact PSU-2). All other activities occurring under this alternative would be the same as the Proposed Project. Impacts to water resources (Impact PSU-3) and impacts related to wastewater generation (Impact PSU-4) would remain the same as the Proposed Project. This alternative would continue to comply with all applicable regulations related to solid waste (Impact PSU-6), and impacts would remain less than significant.

Recreation and Public Access

The No Waste by Rail Alternative would shift all rail trips to direct truck trips resulting in an incremental increase in trucking activity compared to the Proposed Project over the course of several years. Construction trucks would follow the same routes and protocols and would not cause any delays or road closures compared to the Proposed Project. Therefore, impacts to public access and recreation under this alternative would be the same as the Proposed Project because transport of material offsite would still occur, resulting in truck trips that could temporarily interfere with access to local trails or recreational areas along Avila Beach Drive. Like the Proposed Project, with implementation of MM REC-1 (*Commercial Fishing Operations Access*

Plan for Avila Beach Drive), along with MM EM-2 (*Project Plan, Updating, Tracking, and Reporting*), and MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and TRA-7 (*Coordination with Harbormasters*) impacts would be less than significant with mitigation related to permanent, temporary or intermittent roadway, parking, or trail closures (Impact REC-1); restricted access to the coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways (Impact REC-2); and exposure of recreational users to hazards (Impact REC-4). Similarly, like the Proposed Project, impacts would be less than significant related to the increased use or construction or expansion of recreational facilities (Impact REC-3).

Transportation

Ground Transportation. This alternative would shift all rail trips to direct truck trips. The Proposed Project ground transportation VMT analysis conservatively assumes that 62 of the 99 potential rail trips would be completed via direct truck. Rail transportation does not contribute to VMT, other than the trucking of materials to and from railyards. As such, compared to the Proposed Project, the No Waste by Rail Alternative would result in a slight increase in the VMT generated by truck activity. This would be offset, however, by a reduction in VMT related to employee trips as no additional employees would be needed at rail facilities. As such impacts related to VMT (Impact TRA-1) would be similar to the Proposed Project, with VMT being substantially lower than existing conditions. Impacts would be mitigated with MM TRA-1 (*Truck Transportation Outside of Peak Hours*).

As noted above, the Proposed Project ground transportation VMT analysis conservatively assumes that 62 of the 99 potential rail trips would be completed via direct truck. Under this alternative, the remaining 37 rail trips would be replaced by direct truck trips. Those trucks would follow the same routes and protocols and would not cause any delays or road closures compared to the Proposed Project. This represents an incremental increase in trucking activity compared to the Proposed Project over the course of several years. Therefore, safety impacts related to incompatible uses (Impact TRA-2) would be less than significant, and impacts related to inadequate emergency access (TRA-3) would remain the same as the Proposed Project with implementation of MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 *(Specialty Heavy-Haul Transport Vehicle Transportation Management Plan),* MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and MM TRA-6 (*Diablo Creek Crossing Structure Inspection and Repair*).

Marine Transportation. Similar to the Proposed Project, this alternative would also require barge trips for the export of waste (28 round trips, where each tug pulls two barges for a total of 55 barges, over a four-year timeframe during Period 1B [2030-2033]); the transport of gravel from the Port of Long Beach to fill the Discharge Structure cofferdam (up to 15 round trips during Period 1A [2024-2029]); and the transport of quarry rock sourced from the Connolly-Pacific Co. Quarry on Santa Catalina Island to fill the void left in the bluff following removal of the Discharge Structure (three round trips during Period 1B [2030-2033]). The number of barge trips would be the same under both the Proposed Project and this alternative. Therefore, under this alternative,

offshore marine transportation impacts related to marine vessel safety would be the same as the Proposed Project and would be less than significant with implementation of MM TRA-7 (*Coordination with Harbormasters*) and MM TRA-8 (*Marine Surveyor Assessment*) (Impact TRA-4). Like the Proposed Project, barge transport associated with this alternative would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

Wildfire

The No Waste by Rail Alternative would result in no impacts relating to wildfire risk at the railyard sites since refurbishment and waste transport would not occur at the railyard facilities. However, the number of truck trips would increase, resulting in greater impacts to emergency response and evacuation (Impact WF-1), but trucks would follow the same routes and protocols and would not cause any delays or road closures compared to the Proposed Project. This represents an incremental increase in trucking activity compared to the Proposed Project over the course of several years. MM TRA-2 (S*pecialty Heavy-Haul Transport Vehicle Transportation Management Plan*) and MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*) would continue to reduce impacts to less than significant. Road and bridge upgrades may be required to support the increased number of truck trips, thus potentially exacerbating fire risk during temporary construction activities (Impact WF-3). Wildfire impacts at the DCPP site would remain similar, as activities under this alternative would be the same as the Proposed Project. Impacts WF-2 and WF-4 would remain less than significant.

5.4.7 Alternative 7: Delayed Decommissioning Alternative

5.4.7.1 Alternative 7 Description

Under this alternative it is assumed DCPP operations would continue if PG&E were to be approved for extended operations per Senate Bill (SB) 846 (see Executive Summary Section ES.1, Background, Project Location, and Project Scope). In September 2022, the California legislature passed SB 846, which authorized the extension of operations at the DCPP for up to five additional years (no later than 2029 for Unit 1 and 2030 for Unit 2) under specified conditions. In March 2023, the NRC authorized continued operations at DCPP while the NRC considers PG&E's license renewal application. Additionally, several state agencies have reported and confirmed that DCPP is needed as a continued source of electricity to support statewide electric grid reliability (San Luis Obispo, 2023).

Under this scenario of extended operations, some decommissioning activities may occur simultaneously. Specifically, three proposed buildings, the Vertical Cask Transporter (VCT) Warehouse, Security Warehouse, and a temporary decommissioning office building would be constructed during extended operations, prior to plant shutdown and the onset of full decommissioning of the DCPP. The VCT Warehouse would be approximately 5,400 square feet, 60 feet wide, 90 feet long, and up to 40 feet tall (ERM, 2023). The Security Warehouse would be constructed on top of a concrete slab on grade, and would be approximately 4,800 square feet, 60 feet wide, 80 feet long, and 25 feet tall (ERM, 2023). The temporary decommissioning office building would also be constructed on top of a concrete slab on grade and would be metal, 2,880 square feet, 48 feet wide, and approximately 22 feet tall (ERM, 2023). These facilities would be located in disturbed areas of the DCPP site away from the reactors. The VCT Warehouse would be constructed north

of the ISFSI, the Security Warehouse would be located in the East Canyon Area, and the decommissioning office building would be located off of Decom Avenue (see Figure 2-9). The remaining decommissioning activities would proceed identically to the Proposed Project but would occur five years later (or more) after shutdown.

Construction of the three buildings would involve equipment needed for construction of the concrete foundations, plumbing, framing, insulation, painting, drywall and overhead door installation, electrical, and interior finish. Crews of three to 14 construction personnel would be required per building, with a maximum of approximately 40 workers if all three buildings were to be constructed at the same time. Construction of the VCT Warehouse and temporary decommissioning office building would each occur over an eight-month period and the Security Warehouse would require a six-month construction period.

5.4.7.2 Environmental Impact Analysis

The impacts of the Delayed Decommissioning Alternative compared to the Proposed Project are described below. This analysis focuses on the change in timing of construction of the three decommissioning-related buildings in relation to a delay in decommissioning. Extended operations of the DCPP are not addressed; such analyses are to be completed as required by SB 846 and are outside the scope of the Applicant's Proposed Project and associated alternatives.

Aesthetics

The temporary construction and use of the VCT Warehouse, Security Warehouse, and decommissioning office building prior to full decommissioning would occur entirely within the DCPP site adjacent to the existing electrical infrastructure, and these activities would not create a notable change to views of the DCPP site and surrounding landscape. The three buildings would have heights of 40 feet, 25 feet, and 22 feet, respectively, which would be substantially smaller than some of the existing buildings on site, such as the six-story office building. Delayed decommissioning activities anticipated to occur at the DCPP, and railyard sites would be the same as described for the Proposed Project. Potential impacts to a scenic vista (Impact AES-1) and impacts to the visual character or quality of the sites (Impact AES-3) would remain less than significant, and damage to sensitive scenic resources (Impact AES-2) would remain no impact. Impacts from nighttime lighting at railyard sites (Impact AES-4) would be expected to be the same as the Proposed Project (i.e., Class II), and would require mitigation to control any temporary or permanent lighting.

Air Quality

The timing of the criteria air pollutant emissions would change under this alternative, with the emissions related to the three buildings occurring simultaneously with extended operations of the DCPP followed by the remainder of emissions occurring at least five or more years later than those from the Proposed Project. This alternative would result in a portion of Phase 1 emissions occurring during extended operations, prior to plant shutdown and the onset of full decommissioning. This alternative would involve existing operations occurring at the same time as construction of the VCT Warehouse, Security Warehouse, and decommissioning office building. Like the Proposed Project, the unmitigated emissions of ozone precursors (NOx and VOC) during

Phase 1 would occur at levels that would be potentially significant. To reduce the impact of ozone precursor emissions during Phase 1, the majority of which would occur after construction of the three buildings, MM AQ-1 (*Implement a Decommissioning Activity Management Plan*) and MM AQ-2 (*Provide Funding for Off-site Mitigation of Equipment Emissions*) would ensure impacts are less than significant (Impacts AQ-2 and AQ-3). The Delayed Decommissioning Alternative, like the Proposed Project would have less-than-significant impacts related to local air quality plan conformity (Impact AQ-1) and odor impacts (Impact AQ-4).

Biological Resources – Terrestrial

Impacts from the permanent and temporary loss of vegetation (Impact BIO-1) and the introduction and spread of noxious and invasive species (Impact BIO-2) would not differ from the Proposed Project as the overall land-based decommissioning activities would continue to impact the same areas, just at different points in time. Impacts would remain less than significant with mitigation under this alternative. Impacts associated with the loss, harm, injury, harassment, or potential mortality of common terrestrial wildlife (Impact BIO-3) and interference with established wildlife migratory corridors or terrestrial wildlife nursery sites (Impact BIO-8) would remain less than significant. Impacts to nesting birds (Impact BIO-4), special-status species (Impacts BIO-5 and BIO-6), and ESHAs (Impact BIO-7) would remain less than significant with mitigation. Impacts associated with conflicts with local plans and policies (Impact BIO-10) would not occur, which is the same as the Proposed Project. PG&E would implement the mitigation measures described for the Proposed Project to reduce impacts to less than significant under the Delayed Decommissioning Alternative.

Biological Resources – Marine

Impacts to marine biological resources from the Delayed Decommissioning Alternative would not differ from the Proposed Project because in-water and offshore decommissioning activities would continue in the same manner as the Proposed Project. Therefore, impacts to marine biological resources from this alternative would be the same as those described for Impact MBIO-1 through Impact MBIO-5 from activities that were identified to have potential marine biological impacts (e.g., Waste Transportation, Discharge Structure Removal and Restoration, Water Management, Intake Structure Closure, and Marina Reuse).

Cultural Resources – Archaeology

The same areas as the Proposed Project would be impacted under this alternative. MM CUL-1 (*Retain County-qualified Project Archaeologist*), MM CUL-2 (*Retain County-qualified Project Archaeological Monitors*), MM CUL-3 (*Retain Chumash Tribal Monitors*), MM CUL-4 (*Retain a Project Osteologist*), MM CUL-5 (*Develop a Cultural Resources Monitoring and Discovery Plan*), MM CUL-6 (*Cultural Resources Worker Environmental Awareness Program*), MM CUL-7 (*Archaeological and Tribal Monitoring*), MM CUL-8 (*Unanticipated Discoveries*), and CUL-12 (*Discovery of Human Remains*) would apply during the initial construction of the three buildings, while MM CUL-9 (*Decommissioning Activities Affecting Previously Known Cultural and/or Tribal Resources*), MM CUL-10 (*Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), and MM CUL-11 (*Restrict Access to Environmentally Sensitive Areas for Marina Operations*) would be applicable during the remainder of decommissioning and future actions

related to Marina operations. Like the Proposed Project, impacts to historical resources (Impact CUL-1), unique archaeological resources (Impact CUL-2), and human remains (Impact CUL-3) would remain significant and unavoidable.

Cultural Resources – Built Environment

As there are no designated or eligible historic-age resources within the DCPP site, this alternative would not result in impacts to built environment resources (Impact CUL-1), which is the same as the Proposed Project.

Cultural Resources – Tribal Cultural Resources

The same areas would be impacted under this alternative. Therefore, impacts to Tribal Cultural Resources (Impact TCR-1) would remain significant and unavoidable with the implementation of mitigation.

Energy

The Delayed Decommissioning Alternative, like the Proposed Project, would have less-than-significant impacts related to wasteful, inefficient, or unnecessary consumption of energy sources (Impact EN-1), and would have less-than-significant impacts regarding confliction with State or local plans for renewable energy and energy efficiency (Impact EN-2). Diesel fuel would still be consumed when decommissioning takes place, but currently there are no alternative methods for disposing decommissioning debris that would consume less energy. A five-year delay in decommissioning may present an opportunity for PG&E to realize incremental improvements in fuel efficiencies or in the availability of alternative fuels for equipment and transportation used for decommissioning, as the delay would provide additional time for newer technologies to become commercially available. However, this may only be a minimal improvement as generally more time is needed to develop and implement new technologies.

Geology, Soils, Paleontological Resources, and Coastal Processes

This alternative would impact the same areas as the Proposed Project, and therefore, impacts to geology and soils (Impact GEO-1) under the Delayed Decommissioning Alternative would remain less than significant with mitigation. Impacts at the railyards would occur approximately five years later during the remainder of the decommissioning activities and would be less than significant, which is the same as the Proposed Project.

Impacts related to erosion (Impact GEO-2), paleontological resources (Impact GEO-3), and soils incapable of adequately supporting the use of septic tanks (Impact GEO-4) would be similar to the Proposed Project. Decommissioning activities under extended operations would be in the same locations as the Proposed Project, and soil conditions and paleontological sensitivity of soils would not change. Impacts would remain less than significant with mitigation.

Decommissioning activities would be identical to those identified for the Proposed Project, with the construction of three proposed buildings occurring simultaneously as extended operations. The buildings would be located in the same areas as the Proposed Project. As such, this alternative would result in the same impacts relating to coastal hazards (Impact GEO-5), nearshore sediment properties, characteristics, and processes (Impact GEO-6), coastal wave, current, and

circulation patterns (Impact GEO-7), increased effects associated with sea level rise (Impact GEO-8) as the Proposed Project. Impacts would remain less than significant with MM GEO-5 *(Discharge Structure Backfill and Natural Bluff Site Inspection*), MM MBIO-3 *(Water Quality Monitoring Plan*), MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*), MM MBIO-5 (*Mooring Placement Habitat Survey*), and MM GEO-5 (*Discharge Structure Backfill and Natural Bluff Site Inspection*).

Greenhouse Gas Emissions

The timing of the GHG emissions would change under this alternative, with the emissions related to the three buildings occurring simultaneously with extended operations of the DCPP followed by the remainder of emissions occurring at least five or more years later than those from the Proposed Project. Like the Proposed Project, the unmitigated emissions would be significant, and MM GHG-1 (*Reduce GHG Emissions or Surrender Offset Credits*) would be required to reduce the effects of GHG emissions to a level that would not result in a significant impact on the environment (Impact GHG-1). The Delayed Decommissioning Alternative, like the Proposed Project would not conflict with GHG emission reduction plans, policies, or regulations (Impact GHG-2).

Hazardous and Radiological Materials

The overall decommissioning activities do not change; therefore, impacts from non-radiological hazardous waste under the Delayed Decommissioning Alternative would be the same as the Proposed Project (Impacts HAZ-1 through HAZ-6). With MM HAZ-1 (*Facility Hazardous Waste Permit Extension*), MM HAZ-2 (*Worker Registration/Certification*) and MM HAZ-3 (*Soil and Groundwater Site Characterization Work Plan*), as well as MM HWQ-1 (*Long-Term Erosion and Sediment Control Plan*) and MM HWQ-2 (*Clean Marina Provisions*), non-radiological hazardous material impacts under this alternative would be less than significant. Impacts associated with triggering a wildland fire and exposing structures and people to significant risk (Impact HAZ-7) would remain less than significant with MM PSU-1 (*Facility Plan Updating, Tracking, and Reporting*) and MM PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*).

Impacts relating to the potential release of radioactive materials (Impact HAZ-8), release of radioactive concentrations into the environment (Impacts HAZ-9 and HAZ-10), radiological groundwater contamination (Impact HAZ-11), and non-compliance with Federal regulations (Impact HAZ-12) under this alternative would be the same as the Proposed Project, as all activities involving radiological waste would be the same as the Proposed Project. At the end of decommissioning, the applicable NRC and USEPA standards relative to radiological materials, and radiation exposures to workers and the public through all media, would be identical to the Proposed Project. Therefore, radiological impacts under this alternative (Impacts HAZ-8 through HAZ-12) would be identical to the Proposed Project and would be less than significant.

Hydrology and Water Quality

Decommissioning activities would be identical to those for the Proposed Project, with the construction of three proposed buildings occurring simultaneously as extended operations. Construction of the buildings would require compliance with the same water quality regulations, result in the same water quality impacts, use the same amount of water, and occur in the same

locations as the Proposed Project. Therefore, impacts related to water quality, water supply, soil erosion and sedimentation, and flood inundation would be the same as the Proposed Project, requiring the same soil and water management plans and mitigation measures to reduce impacts to less than significant.

Land Use and Planning

Decommissioning activities under the Delayed Decommissioning Alternative would be identical to the Proposed Project, with a few decommissioning activities occurring simultaneously with extended operations. The types of impacts that could occur to public and private land uses would remain the same, as the three buildings that would be constructed simultaneously with extended operations would be built in the same locations as the Proposed Project. Transport activities could temporarily limit public access along the proposed routes in a manner that is similar to the Proposed Project. As discussed for the Proposed Project, MM TRA-1 *(Truck Transportation Outside of Peak Hours),* MM TRA-2 *(Specialty Heavy-Haul Transport Vehicle Transportation Management Plan),* MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), and MM TRA-5 (*Quarterly Decommissioning Updates*) would be implemented to minimize land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle TMP, and ongoing notifications to affected land uses. There would be no new impacts associated with disruptions or displacement of land uses under this alternative that would require additional mitigation. Impact LUP-1 would remain less than significant with mitigation.

This alternative would not affect agricultural lands or convert surrounding agricultural uses.

Noise

Construction of buildings to support decommissioning at the same time as continued DCPP operations would result in a limited increase in traffic noise from construction workers and equipment and materials deliveries. Due to the limited nature of the construction activities prior to full decommissioning activities, impacts at the DCPP site would be identical or less than those discussed in Impacts NOI-1 through NOI-3 for the Proposed Project.

Public Services and Utilities

Under this alternative, decommissioning activities, such as the construction of three buildings, would occur simultaneously with extended operations. The VCT Warehouse, Security Warehouse, and temporary decommissioning office building would require the same need for fire and emergency response. Impacts relating to emergency services would remain less than significant with MM PSU-1 *(Facility Plan Updating, Tracking, and Reporting*), MM PSU-2 *(Retain the Diablo Canyon Fire Department and Emergency Facilities*), MM CUL-10 *(Plan to Restrict Public Access After Removal of Diablo Canyon Road Guard House Facilities*), MM TRA-1 *(Truck Transportation Outside of Peak Hours*), and MM TRA-2 *(Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*). Impacts relating to the relocation or construction of utility systems, water resources, wastewater capacity, solid waste generation, and solid waste regulations would remain less than significant.

Recreation and Public Access

Construction worker and truck trips associated with construction of the three identified buildings would occur at the same time as continued DCPP operations; however, truck trips would not be allowed during peak periods per MM TRA-1 (*Truck Transportation Outside of Peak Hours*). The additional construction workers and limited number of trucks transporting materials to and from the site for the three buildings would not require the use of heavy or oversize trucks, nor would there be substantial truck hauling given major excavation is not required for concrete slab and temporary structures. Therefore, construction truck trips would not result in substantial impacts to recreation and public access. As such, no new impacts related to public access and recreation would occur. Impacts related to the remainder/majority of decommissioning activities (Impacts REC-1 through REC-4) would essentially be identical to the Proposed Project and would be reduced to less than significant with mitigation.

Transportation

Ground Transportation. Construction worker and truck trip activity associated with construction of the three identified buildings would occur at the same time as continued DCPP operations. As such, there would be increased trips to and from the site during this interim period before the plant shuts down and full decommissioning ensues. Assuming up to 40 workers are on site daily for the construction of the three temporary buildings, in addition to the existing DCPP employees, this would represent a marginal increase in total daily vehicle miles traveled (VMT). The construction of each building is estimated to be up to eight months; assuming that construction of all three building simultaneously occurs by phase (for example, workers pouring foundations for all three buildings at the same time, but interior finish workers would not yet be on site), the period of maximum workers is likely to be a few months at most out of the five-year period. Although this would be an increase in total VMT, the increase is estimated to be three percent or less depending on whether the plant operations remain at the maximum level (1,400 daily employees) or less (as described in Chapter 4.16, observed data provided by the Applicant found less than 1,200 daily employees). Given the small and temporary increase in daily VMT, and 40 workers is within the daily variation of employees commuting to the site, this is a temporary and less than significant effect. Once the plant is shut down there would be a decrease in employees that would result in a decrease in VMT compared to the existing use, and no impact would occur (Impact TRA-1).

Impacts related to incompatible uses (Impact TRA-2) would be the same as the Proposed Project and mitigated with MM TRA-1 (*Truck Transportation Outside of Peak Hours*). The additional construction workers and limited number of trucks transporting materials to/from the site (cement trucks, flatbed trailers) would be limited and temporary and would not require the use of heavy or oversize trucks, nor would there be substantial truck hauling given major excavation is not required for concrete slab and temporary structures. These trips would occur over the course of up to eight months only during the five-year extended operations period and would not overlap with any of the decommissioning construction truck trips.

Existing DCPP operations and simultaneous construction of the VCT Warehouse, Security Warehouse, and office building would result in the same impacts as the Proposed Project related to inadequate emergency access (Impact TRA-3). Although this alternative would delay decom-

missioning activities, decommissioning of the DCPP would ultimately occur. Access to the site and reduction of the existing Owner Controlled Area in Phase 2 would eventually occur and include the construction of the blufftop road. Impacts related to inadequate emergency access would be similar to those under the Proposed Project. Although there would be a marginal increase in truck and worker activity to the site during the five-year period overlapping with extended operations, these activities are temporary and limited to likely a few days at most based on the planned building descriptions and the construction schedule and would likely fall within the daily variation of traffic to and from the DCPP site under existing conditions. The construction of the three buildings would not require additional specialty trucks or other activities that would require road closures or detours. MM TRA-1 (*Truck Transportation Outside of Peak Hours*), MM TRA-2 *(Specialty Heavy-Haul Transport Vehicle Transportation Management Plan),* MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), MM TRA-6 (*Diablo Creek Crossing Structure Inspection and Repair*), MM TRA-7 (*Coordination with Harbormasters*), and MM TRA-8 (*Marine Surveyor Assessment*) would reduce impacts to less than significant.

Marine Transportation. Construction of buildings to support decommissioning at the same time as continued DCPP operations would not require the use of barges. Therefore, there would be no impacts related to marine vessel safety. The Delayed Decommissioning Alternative would not change the need or quantity of barge trips but would delay the schedule of these trips by five years.

Wildfire

Under this alternative, decommissioning activities would be identical to the Proposed Project, with a few buildings being constructed earlier than the remainder/majority of decommissioning activities. Impacts to an adopted emergency response plan or emergency evacuation plan (Impact WF-1) and those associated with the exacerbation of wildfire risks (Impact WF-2 and Impact WR-3) would remain less than significant with mitigation. Additionally, impacts related to the exposure of 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 (Impact WF-4) would remain less than significant with mitigation.

5.4.8 Alternative 8: CSLC Full Removal Alternative

5.4.8.1 Alternative 8 Description

The CSLC has jurisdiction over the offshore portions of State-owned sovereign land adjacent to the DCPP site, which includes portions of the facility that extend onto filled and unfilled tidal and submerged lands of the Pacific Ocean. Facilities within the CSLC jurisdiction include the Discharge Structure, Intake Structure, Breakwaters, Marina (includes the boat dock and rip rap along the shore of the Marina), storage facility, office facilities, intake electrical room, intake maintenance shop, equipment storage pad, and spare tri-bar storage. Per the current lease (PRC 9347.1 Section 2, Paragraph 5(i)), upon expiration or termination of the lease the "Lessee [PG&E] must remove all or any Improvements, together with the debris and all parts of any such Improvements at its sole expense and risk, in accordance with a decommissioning and restoration plan under Section 3, Paragraph 13(a)(3), regardless of whether Lessee actually constructed or placed

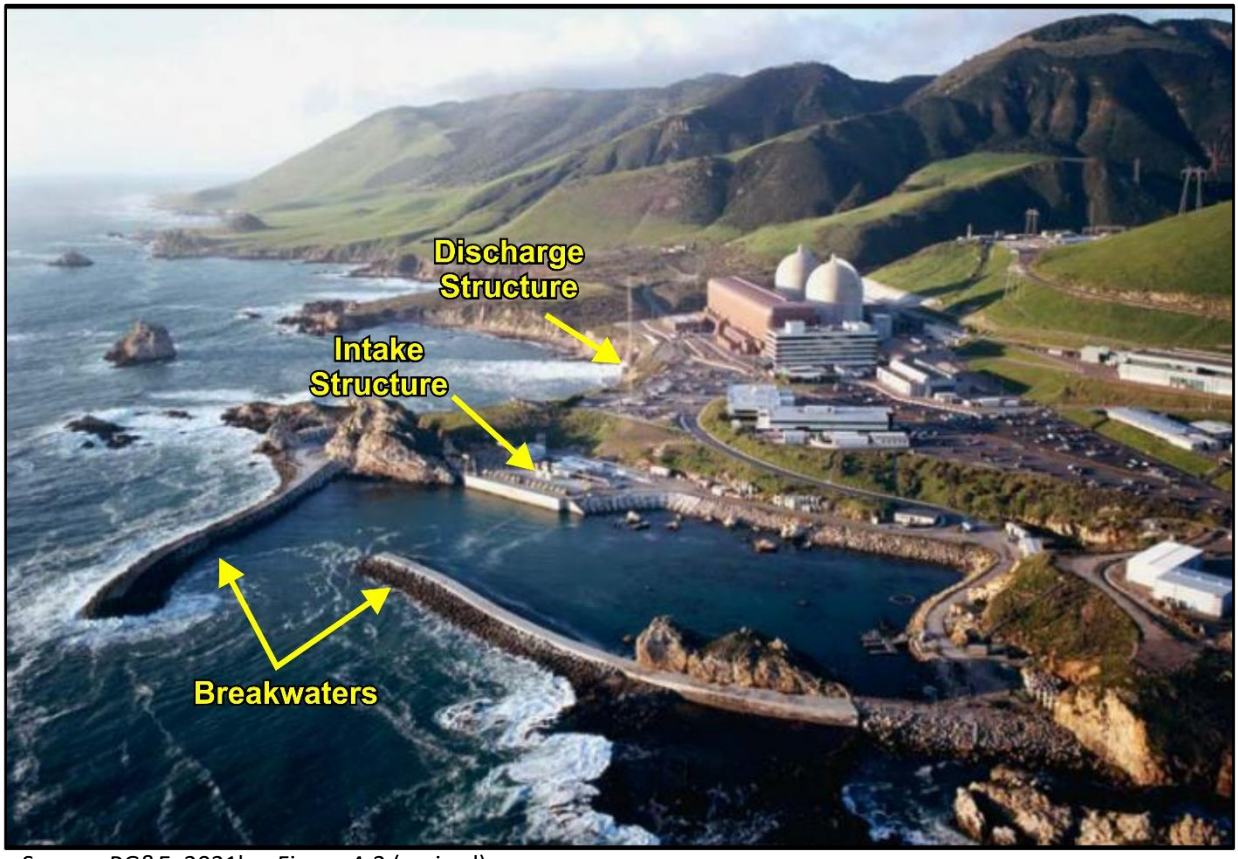
the Improvements on the Lease Premises. Lessor may waive all or any part of this obligation in its sole discretion if doing so is in the best interests of the State" (CSLC, 2016).

This alternative assumes no approval from CSLC is received for keeping the Breakwater and Marina, including the Intake Structure (closed and capped) and the boat dock, and PG&E is required to meet the existing lease requirements described above. In this case, all infrastructure within the CSLC jurisdiction would be removed. Repurposing of structures such as the Breakwater, Marina, boat dock, and/or Intake Structure would not occur. Decommissioning of infrastructure outside of the CSLC jurisdiction would be completed as described for the Proposed Project to achieve NRC license termination. This alternative represents the combination of PG&E's Intake Structure Removal Alternative and Breakwater Removal Alternative (introduced in Sections 5.3.1 and 5.3.2, respectively).

Under the Proposed Project the Breakwaters would remain and the Intake Structure would be modified to load barges for bulk waste transport and otherwise retained to support future use of the Marina area. This alternative would result in all the same removals as the Proposed Project with the addition of (1) complete removal of the East and West Breakwaters around the Intake Cove, (2) complete removal of the Intake Structure,[60] and (3) removal of the Intake Structure water tunnels (includes a short portion of the Unit 1 and Unit 2 tunnels equating to approximately 327 feet [PG&E, 2022b – DR#7, Alternatives 1]), as well as any other infrastructure within the CSLC jurisdiction, up to the CSLC's upland jurisdictional boundary and sealing of the tunnels with a concrete bulkhead. Unlike the Proposed Project, the area of the Discharge Structure would not be backfilled with quarry rock following removal. Preliminary plans for these removals are presented below. These components are also highlighted in Figure 5-11.

[60] As part of the CPUC 2021 Nuclear Decommissioning Cost Triennial Proceedings, retention of the Intake Structure was identified as a cost savings measure for repurposing of plant facilities, with a decommissioning cost savings of approximately $37.5 million (PG&E, 2021e).

Figure 5-11. Alternative 8 Components



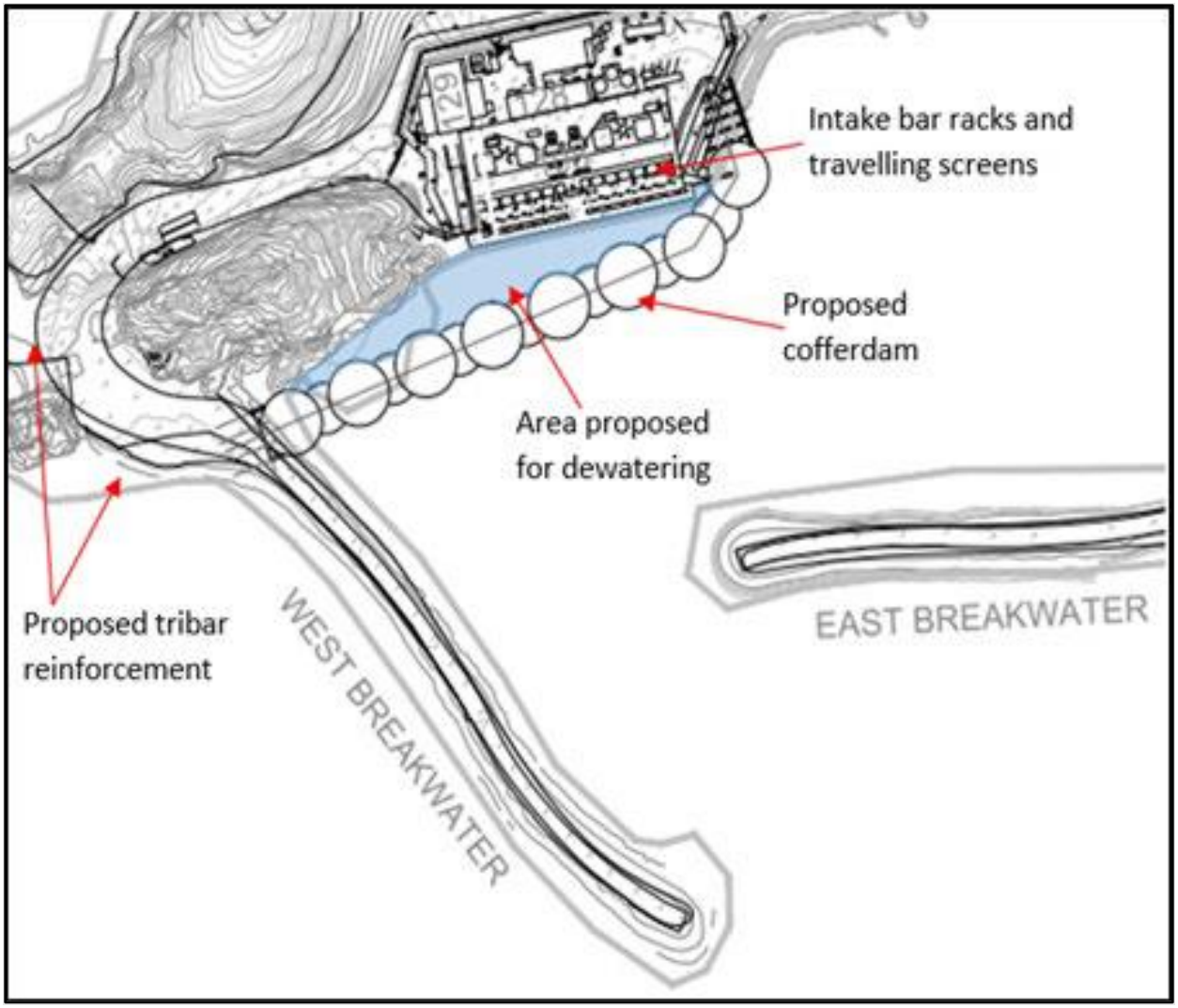
Source: PG&E, 2021b – Figure 4-3 (revised).

Intake Structure Demolition

The Intake Structure is a predominantly cast-in-place concrete structure with a conventional reinforcing bar system. The structure is approximately 240 feet (ft) long and is approximately 104 ft wide. The top of the concrete slab at the Intake Structure's lowermost elevation is approximately 32 ft below mean sea level (MSL). Similar to the removal of the Discharge Structure discussed in Section 2.3.14 (see also Figure 2-23), the Intake Structure would also need to be isolated from the ocean using a cofferdam of similar design (see Figure 5-12). The cofferdam would be installed around the Intake Structure in a similar fashion to that of the Discharge Structure cofferdam. A bathymetric survey completed in 2020 indicated the presence of multiple large objects/debris inside the Intake Cove, some at or near the proposed cofferdam footprint (PG&E, 2021a – Appendix E, Hydrographic Survey Report). These objects may include debris from original construction, large rocks, and/or tribar formations from the past Breakwater failure. Prior to cofferdam construction, these objects may need to be dredged/removed. In addition, for added safety protection from large swells for the construction crews, equipment, and materials, additional tribars may be stacked along the West Breakwater.

The cofferdam would necessitate the transport of gravel from the Port of Long Beach to the DCPP site requiring an estimated 22 barges, requiring approximately 22 round trips (where each tug pulls one barge). The number of barges was calculated based on initial estimates of 85,071 tons of import material, with a carrying capacity of 4,000 tons per barge.

Figure 5-12. Intake Structure Cofferdam



Source: PG&E, 2021b – Figure 4-1.

Demolition of the Intake Structure is expected to occur during Phase 1 and would be accomplished through industrial demolition means and methods, including the use of demolition tools attached to track-mounted backhoes, articulated wheel loaders, and small-scale tool carriers. Demolition tools include hydraulic hoe-rams, hydraulic shears, concrete pulverizers, universal processors, various grapples and "thumbs," trucks, and other such industrial tools. In general, the structure would be demolished in a top-down manner to the ocean floor, and the resultant debris moved to the waste processing area for further dispositioning. All systems and large components inside the Intake Structure would remain in their present locations and would be removed and downsized for disposal purposes during the demolition of the structure. It is anticipated that demotion of the Intake Structure would generate on the order of approximately 800,000 cubic feet (60,000 tons) of demolition debris, which is assumed to be shipped offsite by truck and/or barge.

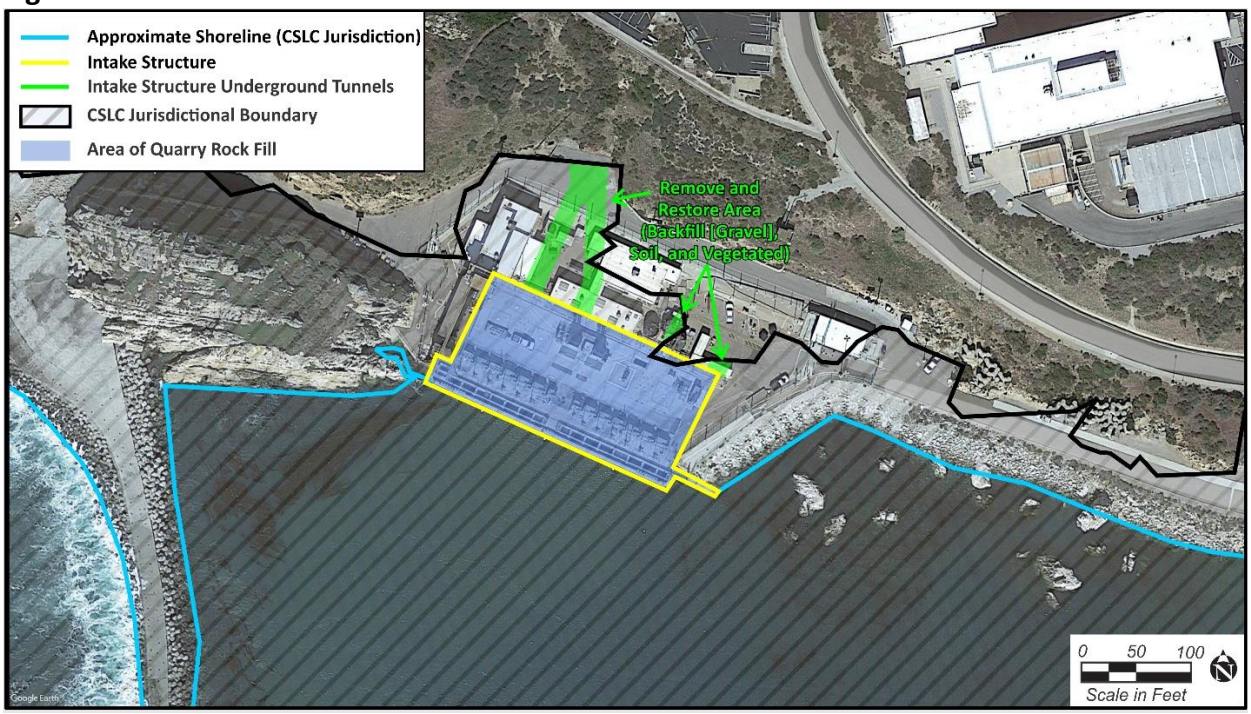
Upon completion of the demolition, the area would be turned over for Final Site Restoration, including FSS (see Section 2.3.22), backfilling, and landscaping activities. The cofferdam would

remain in place after the Intake Structure is removed in support of barging operations to remove waste. The barges would anchor onto the cofferdam instead of having to construct a new mooring facility. Once the barging activities are complete, the cofferdam would be removed from the Intake Cove/marina, and the cofferdam and former Intake Structure area restored. The cofferdam removal process is essentially the reverse of the installation.

Intake Structure Restoration

The waterfront structure following demolition of the Intake Structure would consist of a gap in the natural sea front that would be one of the restoration-focus areas (see Figure 5-13). This gap would span approximately 500 feet between the Breakwater and the natural waterfront rocks.

Figure 5-13. Intake Structure Restoration Area



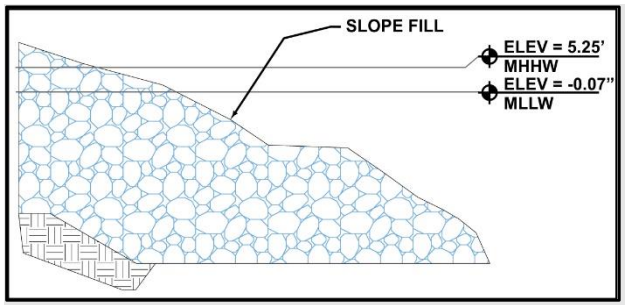
Source: PG&E, 2021b – Figure 4-2.

Following removal of the entire Intake Structure, the approximately 810,000-cubic foot void (based on a shored rather than sloped area) created by the removal of the Intake Structure may be left as-is (no backfill) or backfilled with natural rocky material to maintain stability and the natural profile of the bluff. This would be accomplished by importing quarry rock sourced from local quarries (i.e., Santa Catalina Island or San Francisco Bay) and moved to the site via tug and barge. The rock would be placed using a land-based crane equipped with rock tongs. Approximately 57,300 size D50 or 1-ton stones would be required to fill the void of the Intake Structure, as shown in Figure 5-14. This is based on preliminary design and may be modified as part of final design, which could include gradation of rock sizes and layering of different materials similar to the design of the Discharge Structure backfill (see Figure 2-27).

With the additional removal of the water tunnels within the CSLC jurisdiction, the backfill area would increase to an estimated 1,620,000-cubic feet requiring 114,600 1-ton stones (PG&E, 2022b – DR#7, Alternatives 1). With the general capacity of an ocean transport barge of

approximately 4,000 tons per barge (based on a 200-foot flat dock barge or hopper barge), a total of approximately 35 barge/ tugboat trips would be required to transport rock from Santa Catalina Island. The quarry rock placed in the Intake Structure gap would provide new colonizable intertidal substrate supporting marine algae, invertebrates, and fishes. Following restoration activities, the cofferdam would be removed and the inter-tidal area behind the dam re-flooded.

Figure 5-14. Intake Structure Removal with Full Backfill



Source: PG&E, 2021a.

A total of 35 barges requiring approximately 35 round trips would be required for the import of quarry rock (22 barges for the backfill of the disturbed area for the Intake Structure, and another 13 barge trips for the backfill of the Intake Structure tunnel area).

Breakwater Demolition

The Breakwaters extend from two points into the ocean, creating an area of calm surface water around the Intake Structure (see Figure 5-11). The Breakwaters are built from man-made interlocking concrete tribar (concrete block in a complex geometric shape weighing up to 37 tons, used to protect harbor walls from the erosive force of ocean waves), placed on top of stone base layers and concrete embedment ribs positioned on the ocean floor to secure the tribars in place (see Figure 5-15).

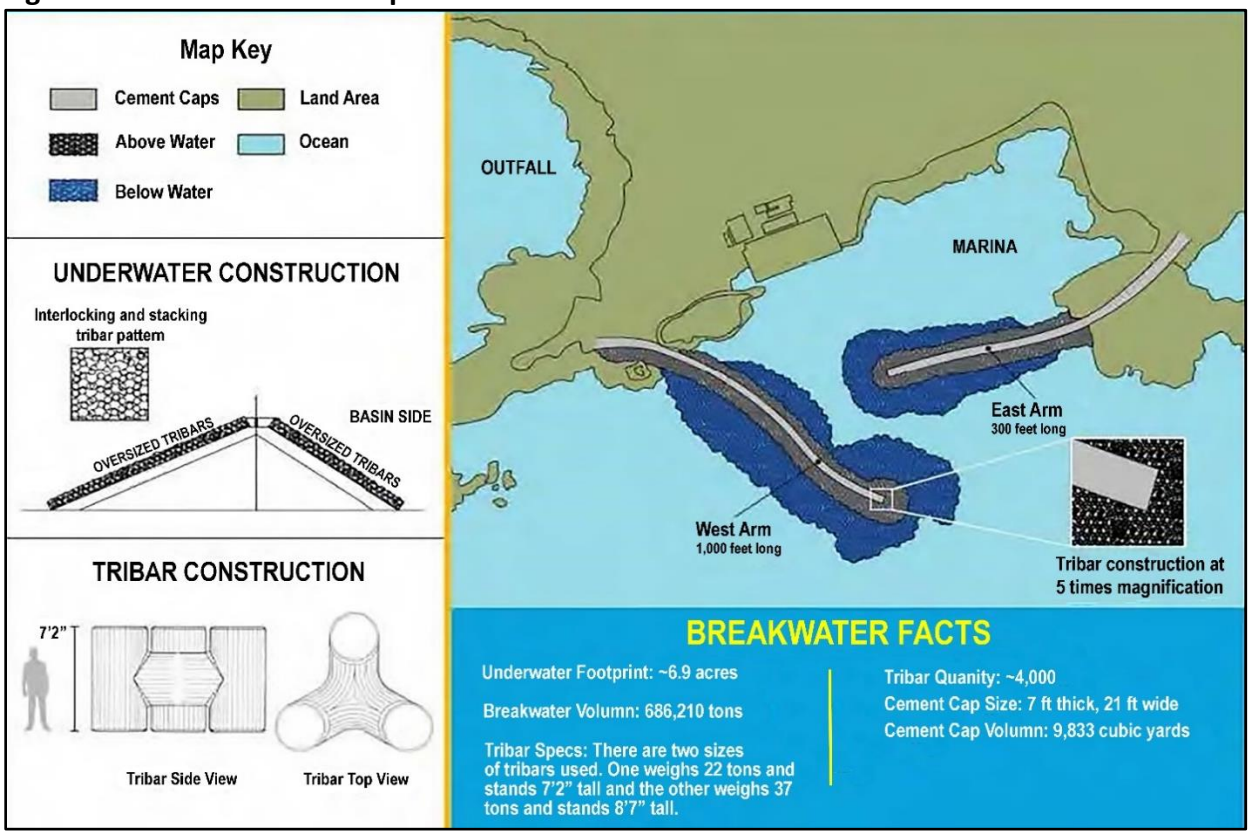
The approximate Breakwater material quantities, which have been estimated based on a conceptual design, are provided in Table 5-5. In short, the volume of material in the Breakwater is greater than all the clean concrete generated from demolition of the other elements of the DCPP site (455,000 tons of clean concrete – see Section 2.3.16.3, *Recycled Concrete*).

Under this alternative, during Phase 2, the East and West Breakwaters would be demolished and removed by either a land-based or marine approach.

If a land-based approach is used, a track mounted excavator fitted with the appropriate demolition tool would first demolish the cap slab and the top section of tribar of each Breakwater down to an elevation slightly above MSL. Demolition debris would be loaded into dump trucks using articulated wheel loaders as the demolition progresses from the shore end of each Breakwater to the terminal point at the end. At that point, the track-mounted excavator would be used with similar tooling to reach below the water line and demolish the concrete tribar of each Breakwater starting at the terminal end of each Breakwater, working its way back to the shoreline. During this process, a long reach excavator would be fitted with a concrete pulverizer (e.g., a hoe-ram) designed for underwater demolition to break up the cast in place concrete ribs from the ocean floor. A track-mounted crane with either a drag line or a clam shell bucket would be used to remove the concrete rubble and bottom layers of stone material from below the waterline, which

would be loaded into articulated wheel loaders[61] and transferred directly to the waste processing facility. It is assumed demolition debris would be shipped offsite by truck.

Figure 5-15. Breakwater Components



Source: PG&E, 2021b – Figure 4-4 (revised).

If a marine approach is used, a track mounted excavator would be situated on a work barge and fitted with an extended boom, underwater hoe-ram, and either a clamshell bucket or a dragline attached to a lattice boom crane would be used. The work barge excavator would remove the concrete rubble, tribars, and stone that comprise the two Breakwaters. Due to the ocean conditions at DCPP, this barge may be a "jack-up" barge capable of supporting itself on the ocean floor with legs that jack up the barge portion above the water surface. The material that is removed would be transferred into a material barge for transport via a tugboat for disposal. An estimated 172 barges requiring 86 round trips (assumes each tug pulls 2 barges) would be required.

Table 5-5. Estimated Breakwater Material Quantities

Material	Cubic Yards	Cubic Feet	Tons	Pounds
West Breakwater				
Tribars	31,838	859,626	61,620	123,240,000
Concrete	4,800	129,600	9,720	19,440,000

[61] Depending on where the equipment is situated, a barge may need to be utilized for demolition debris and transported via a tugboat for disposal (see also marine approach).

Table 5-5. Estimated Breakwater Material Quantities

Material	Cubic Yards	Cubic Feet	Tons	Pounds
Stone	157,806	4,260,762	383,469	766,937,160
TOTALS	194,444	5,249,988	454,809	909,617,160
East Breakwater				
Material	**Cubic Yards**	**Cubic Feet**	**Tons**	**Pounds**
Tribars	14,203	383,473	27,363	54,726,000
Concrete	4,825	130,275	9,771	19,541,250
Stone	63,909	1,725,543	155,299	310,597,740
TOTALS	82,937	2,239,291	192,432	384,864,990
Injected Concrete				
Material	**Cubic Yards**	**Cubic Feet**	**Tons**	**Pounds**
Concrete	18,100	488,700	36,653	73,305,000

Source: PG&E, 2021b – Table 4-1.

The marine contractor's resources would consist of equipment such as a construction barge with the lattice boom crane and track-mounted excavator, material barges, ocean-going tug for tending the material barges, ocean-going tug to pull and reset anchors mooring the construction crane barge and the material barges, and a crew boat to shuttle the crew from the marine contractor's place of business to and from the DCPP site.

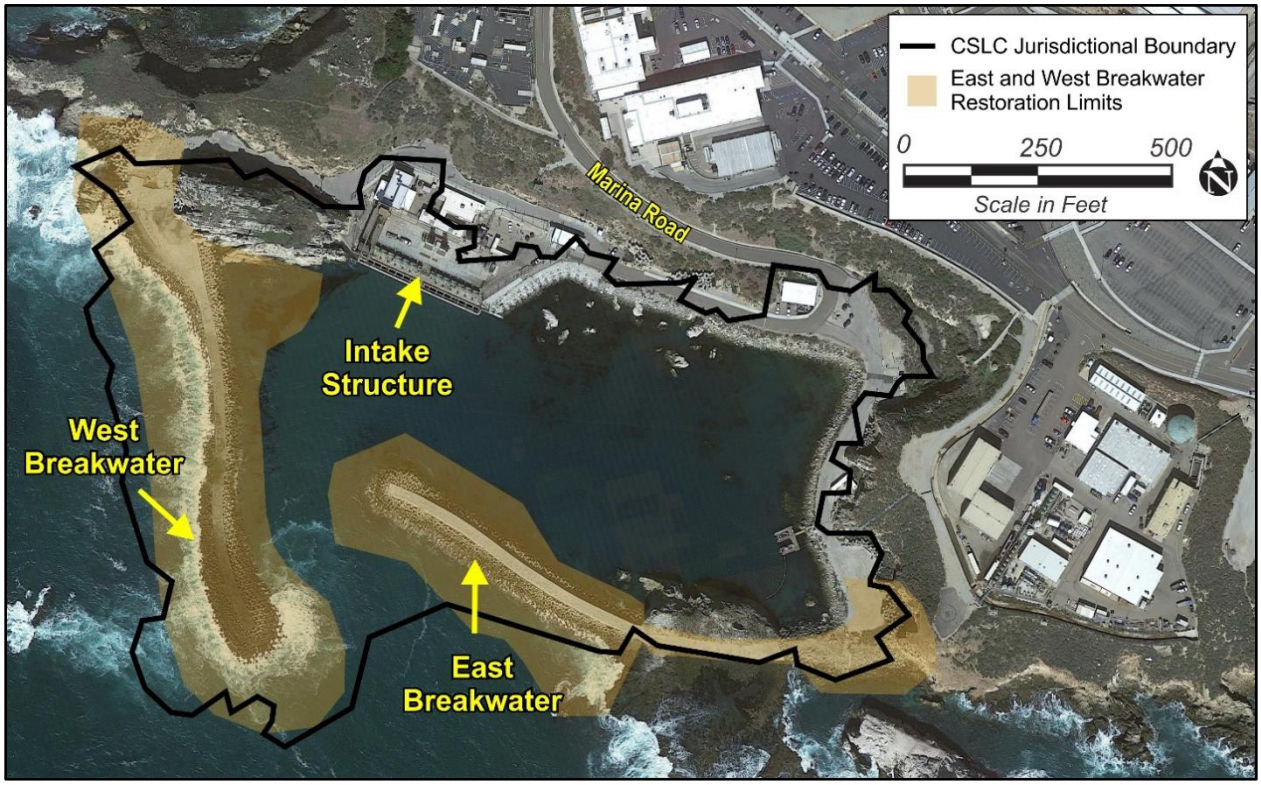
In both the land-based and marine approaches, the possibility exists that the demolition equipment would not be capable of breaking up the injected concrete embedment ribs poured directly on the ocean floor. For this reason, the Project may require the use of underwater explosives, if allowed by the CSLC and other regulatory agencies. To support the use of explosives, underwater divers would be required to place charges in strategic locations to break up the concrete. In the land-based approach, a clamshell bucket or a dragline situated on the partially removed Breakwater would be used to remove the concrete rubble, which would be loaded into barges for transport via tugboat for disposal or onto articulated wheel loaders and transferred directly to the waste processing facility. In the marine approach, the clam shell bucket or dragline would be situated on the work barge, and the material transferred into the material barge.

Breakwater Restoration

Following removal of the Breakwaters, restoration of the sea floor under the existing Breakwaters and associated waterfront areas would be required. The goal of this portion of the marine restoration would be to reestablish the subtidal community to a level commensurate with the natural sea floor along the California central coast and similar to that found in the DCPP vicinity. Prior to Breakwater removal, a detailed hydrographic survey delineating the sea floor and Breakwater toes would be conducted in addition to a subtidal marine survey of the biological habitat and community at and around the Breakwater. Together, the hydrographic and marine survey would provide insight into the level of site restoration necessary.

Removal of both Breakwaters under this alternative would be completed with no remaining structures on the sea floor. The East and West Breakwaters cover an area of approximately 6.9 acres (see Figure 5-16). The East Breakwater extends from the natural bluff to a small pinnacle island, and then to the north. Removal of this structure would restore the island to natural rock face and provide water flow into the Intake Cove from the south as well as the north.

Figure 5-16. East and West Breakwater Restoration Areas



Source: PG&E, 2021b – Figure 4-5 (revised).

5.4.8.2 Environmental Impact Analysis

The CSLC has discretion regarding the end-state requirements for improvements on State-owned lands, including requiring full removal of all structures within the CSLC's jurisdiction. Therefore, it was determined that this alternative should be analyzed at the same level of detail as the Proposed Project. The impacts of the CSLC Full Removal Alternative compared to the Proposed Project are described below. Because most of the decommissioning activities related to removal of onshore structures and post-decommissioning new facility operations would be the same as described for the Proposed Project, the analysis of Alternative 8 focuses on offshore impacts during Phases 1 and 2. Additionally, since the Marina would be dismantled as part of Alternative 8, no impacts related to future offshore improvements and operations of the Marina would occur and are therefore not discussed.

No Change in Impacts

For some environmental issue areas, implementation of the CSLC Full Removal Alternative would not result in any change in impacts compared to those of the Proposed Project. This is primarily because impacts under this alternative would only result in changes associated with additional

removals along the shoreline and offshore. For the issue areas described below, impacts associated with this alternative would be generally the same as described for the Proposed Project:

- **Aesthetics.** Onshore changes and related aesthetic impacts under this alternative would be the same as the Proposed Project for Impacts AES-2 and AES-4. As with the Proposed Project, permanent removal of onshore structures would notably improve the coastal viewshed from existing conditions under this alternative. The aesthetic impact from the offshore activities is discussed below (Impacts AES-1 and AES-3).
- **Biological Resources – Terrestrial.** Impacts to terrestrial biological resources would not differ from the Proposed Project as onshore decommissioning activities would continue in the same manner as the Proposed Project. As with the Proposed Project, this alternative would not significantly contribute to adverse cumulative impacts related to terrestrial biological resources.
- **Cultural Resources – Cultural Resources.** Impacts to historical resources (Impact CUL-1), unique archaeological resources (Impact CUL-2), and human remains (Impact CUL-3) would remain significant and unavoidable with the implementation of mitigation, which is the same as the Proposed Project; however, impacts under this alternative would be more severe because of the increased ground disturbance.
- **Cultural Resources – Built Environment.** With no designated or eligible historic-age resources within the Proposed Project site, this alternative would result in no impacts to built environment resources (Impact CUL-1), which is the same as the Proposed Project.
- **Cultural Resources – Tribal Cultural Resources.** Impacts to Tribal Cultural Resources (Impact TCR-1) would remain significant and unavoidable with the implementation of mitigation, which is the same as the Proposed Project; however, impacts under this alternative would be more severe because of the increased ground disturbance.
- **Energy.** The CSLC Full Removal Alternative would generally result in the same energy impacts as the Proposed Project, as this alternative would include additional demolition activities that would be handled similarly to the Proposed Project. Energy use would be minimized by limiting unnecessary use of construction equipment and vehicles, and the total energy use compared to the percent of total diesel volume produced by California's refineries would be less that 0.1 percent. Therefore, Impact EN-1 for the CSLC Full Removal Alternative would be less than significant (Class III). Additionally, like the Proposed Project, there are no plans or policies that relate specifically to energy efficiency during decommissioning activities, so this alternative would also not conflict with federal, state, or local plans for renewable energy development or energy efficiency and impacts would be less than significant.
- **Geology, Soils, Paleontological Resources, and Coastal Processes.** Activities for the CSLC Full Removal Alternative only differ from the Proposed Project as they relate to decommissioning nearshore and offshore. Onshore changes under this alternative would be the same as the Proposed Project. All infrastructure within the CSLC jurisdiction, including the Breakwater, Marina, and Intake Structure would be removed. Like the Proposed Project, impacts related to geology, soils, seismic hazards, and paleontology would be less than significant. Therefore, Impacts GEO-1, GEO-2, GEO-3, and GEO-4 are the same as the Proposed Project and the same mitigation measures would apply. Impacts GEO-5 through GEO-8 related to coastal processes

are discussed below. As with the Proposed Project, this alternative would not result in any cumulative impacts related to geology, soils, and paleontological resources.

- **Hazardous and Radiological Materials.** With the greater volume of waste generated from more structures being removed, the severity of non-radiological material impacts increases, but overall, the non-radiological hazardous material impacts under this alternative would be the same as the Proposed Project and remain less than significant (Impacts HAZ-1 through HAZ-7). At the end of decommissioning, the applicable NRC and USEPA standards relative to radiological materials and radiation exposures to workers and the public through all media, are identical. Therefore, radiological impacts under this alternative (Impacts HAZ-8 through HAZ-12) would be the same as the Proposed Project and less than significant.
- **Noise.** Under the CSLC Full Removal Alternative, decommissioning activities would generate twice the amount of waste materials of the Proposed Project and substantially increase the work performed within the ocean. This would cause both truck haul route noise and underwater noise to increase (for underwater noise see *Biological Resources – Marine*). By doubling the hauling of the waste materials generated by the decommissioning activities, the truck haul route noise would increase by 3 dBA. However, the predicted truck haul route noise contribution is extremely low at all sensitive receptors compared with the existing ambient noise level as indicated in the Proposed Project analysis, and the 3 dBA increase would not change the impact analysis by more than 0.9 dBA and maintain an overall increase of 2.0 dBA or less (see Appendix H). As such, there would be no change in Impacts NOI-1 through NOI-3.
- **Land Use and Planning.** While the extent of offshore decommissioning activities is greater under this alternative than the Proposed Project, the types of impacts that could occur to public and private land uses would remain the same. Transport activities could temporarily limit public access along the proposed routes in a manner that is similar to the Proposed Project. As discussed for the Proposed Project, MM TRA-1 through MM TRA-5 would be implemented to minimize land use impacts through the restriction of the hours of truck transport, the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle TMP, and ongoing notifications to affected land uses. There would be no new impacts associated with disruptions or displacement of land uses under this alternative that would require additional mitigation. Impact LUP-1 would remain less than significant with mitigation. Impact LUP-2 would remain no impact, as there are no activities under this alternative that would extend into agricultural lands.
- **Public Services and Utilities.** Onshore changes and related impacts to public services and utilities under this alternative would be the same as the Proposed Project and remain less than significant at the DCPP site (Impacts PSU-1, PSU-2, PSU-3, PSU-4, and PSU-6). Impacts at the railyard sites would be the same for Impacts PSU-1 through PSU-6. Offshore activities would differ from the Proposed Project, and the impacts at the DCPP facility related to solid waste capacity (PSU-5) are discussed below.
- **Wildfire.** Wildfire impacts (Impacts WF-1 through WF-4) under this alternative are the same as described for the Proposed Project. Decommissioning activities that pose a wildfire risk would occur onshore, where vegetation, slope, and topography combine to form wildfire risk factors. The additional components of this alternative would occur along the shoreline and offshore areas that would not pose a risk of wildfire. Impacts related to exacerbating wildfire risks due

to slope and other factors, exacerbating fire risk due to the installation or maintenance of infrastructure, and exposing people or structures to post-fire slope instability would all remain less than significant. With implementation of MMs TRA-1 (*Truck Transportation Outside of Peak Hours*), TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), PSU-1 (*Plan Tracking and Reporting Form*), and PSU-2 (*Retain the Diablo Canyon Fire Department and Emergency Facilities*), impacts to emergency response and evacuation would be reduced to a level of less than significant.

The environmental issue areas with differences in impacts compared to the Proposed Project are discussed below.

Aesthetics

Impact AES-1: Adversely affect a scenic vista (Class III: Less than Significant).

Phase 1

Additional barging would occur under this alternative to remove waste from the Breakwater demolition and Intake Structure restoration. Although some of the barging activity would be visible from Avila Beach, activities would be temporary and would not create a permanent impact to a scenic resource. The presence of the barges would be short-term and would be consistent with existing views of commercial and recreational fishing and boating. This alternative would not install new structures or other permanent features within Port San Luis Harbor that would alter the character of the Port. Impacts to a scenic vista would remain less than significant (Class III).

Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, there would be no impact to scenic vistas.

Phase 2

Under Alternative 8 the Breakwaters would be demolished and removed during Phase 2 utilizing either a land-based or marine approach. Similar to the Proposed Project, any land-based activities within the DCPP site would not impact a designated scenic vista. If a marine approach is used, barging activity may be visible from Avila Beach. However, marine-based demolition and restoration activities would be temporary. Furthermore, Alternative 8 would not install new structures or other permanent features within Port San Luis Harbor that would alter the character of the Port. Impacts to a scenic vista would remain less than significant (Class III).

Mitigation Measures for Impact AES-1. No mitigation measures are required.

Impact AES-3: Substantially degrade the visual character or quality of the site and its surroundings (Class III: Less than Significant).

Phase 1

Under this alternative, if a marine approach is used, a "jack-up" barge may be installed on the ocean floor for the breakwater demolition. A cofferdam would also be installed temporarily for the intake structure removal. Additional barging would occur under this alternative to support breakwater demolition and for the intake structure restoration. These activities would be visible from views both onshore and from the coast, resulting in adverse but less-than-significant impacts (Class III). Activities would be temporary and would not create a permanent change to the visual character or quality of the coastline.

Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, there would be no impact to the visual character of the railyards.

Phase 2

Following the completion of this alternative, which would permanently remove all structures and restore the area to a more natural state, the coastal viewshed would be notably improved from existing conditions. The long-term improvements from Phase 2 activities would be beneficial to the DCPP site's visual character and quality. The visual quality would be restored close to natural conditions and no adverse impact would occur.

Mitigation Measures for Impact AES-3. No mitigation measures are required.

Cumulative Impacts

Cumulative effects from onshore activities under this alternative would be identical to the Proposed Project. Regarding offshore activities, this alternative would increase the number of barges required for waste removal and site restoration as well as the length of time for which those barges would operate. However, none of these barging activities would install new structures or permanent features, and aesthetic impacts from the presence of these barges would be temporary. Any potential overlap of this alternative's barge activities with the construction of other offshore cumulative projects would not contribute to an adverse aesthetic impact that is cumulatively considerable (Class III).

Air Quality

Impact AQ-1: Conflict with or obstruct implementation of an applicable air quality plan (Class III: Less than Significant).

Phase 1

A project could be inconsistent with the applicable air quality management plan or attainment plan if it causes population and/or employment growth or growth in vehicle-miles traveled in excess of the growth forecasts included in the attainment plan. The CSLC Full Removal Alternative

would still be a decommissioning activity that would not contribute to population or employee growth at the DCPP site. The workforce for decommissioning would be temporary. Also, all decommissioning activities would comply with the applicable rules, regulations, and programs. This alternative, like the Proposed Project, would have less-than-significant impacts related to local air quality plan conformity (Class III).

Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, impacts regarding conflicts with an applicable air quality plan would be less than significant (Class III).

Phase 2

Under Alternative 8, activities would continue to comply with the applicable rules, regulations, and programs, and impacts would be less than significant (Class III).

Mitigation Measures for Impact AQ-1. No mitigation measures are required.

Impact AQ-2: Result in a cumulatively considerable net increase of any criteria air pollutant for which the Project region is in nonattainment (Class II: Less than Significant with Mitigation).

Phase 1

The CSLC Full Removal Alternative would increase air quality pollutant emissions at the DCPP site (San Luis Obispo County Air Pollution Control District [SLOCAPCD]), as well as in the jurisdictions of the Santa Barbara County Air Pollution Control District (SBCAPCD), Ventura County Air Pollution Control District (VCAPCD), and Mojave Desert Air Quality Management District (MDAQMD) for the transportation of materials off site. The NOx emissions from the Proposed Project are already in exceedance of the SLOCAPCD threshold, so the additional emissions from the CSLC Full Removal Alternative would cause the exceedance to be greater (see Table 5-6). Similarly, the quarterly threshold for NOx + ROG would still be in exceedance as is for the Proposed Project, but greater (see Table 5-7). Alternative 8 diesel particulate matter (DPM) emissions would be in exceedance, contrary to the Proposed Project. Implementation of MM AQ-1 to achieve NOx and ROG emission reductions via a Decommissioning Activity Management Plan (DAMP), and MM AQ-2 to provide funding for off-site mitigation of all emissions in excess of the quarterly thresholds (offsetting up to 22.28 tons of ozone precursors and 0.55 tons of DPM per quarter), would ensure that the effects of the Phase 1 portion of the CSLC Full Removal Alternative would be mitigated to below the applicable thresholds of 2.5 tons per quarter of NOx + ROG, and 0.13 tons per quarter of DPM. This impact would be less than significant with mitigation (Class II).

Table 5-6. Alternative 8, DCPP Site, Phase 1 Maximum Unmitigated Daily Emissions (pounds per day)

Phase	NOx + ROG	PM10	PM2.5	CO	SOx
Alt 7 Additional Emissions, DCPP Site	282.63	12.76	9.12	216.63	0.29
Proposed Project Phase 1, DCPP Site	370	28.50	13.61	463.37	82.21
Total Alt 8 Emissions, DCPP Site	652.63	41.26	22.73	680.00	82.50

Table 5-6. Alternative 8, DCPP Site, Phase 1 Maximum Unmitigated Daily Emissions (pounds per day)

Phase	NOx + ROG	PM10	PM2.5	CO	SOx
SLOCAPCD Threshold	137	-	-	-	-
Threshold Exceeded? (Yes/No)	Yes	N/A	N/A	N/A	N/A

Source: EIR Appendix D, Alternative 8 AQ/GHG Summary.

Acronyms: NOx = nitrogen oxides, VOC = volatile organic compounds, PM10 = course particulate matter, PM2.5 = fine particulate matter, CO = carbon monoxide, SOx = sulfur oxides.

Table 5-7. DCPP Site, Phase 1 Maximum Unmitigated Quarterly Emissions (tons per quarter)

Phase	NOx + ROG	Exhaust PM10 or DPM	Fugitive PM10
Alt 8 Additional Emissions, DCPP Site	12.86	0.59	0.53
Proposed Project Phase 1, DCPP Site	11.92	0.09	0.52
Total Alt 8 Emissions, DCPP Site	24.78	0.68	1.05
SLOCAPCD Threshold	2.5	0.13	2.5
Threshold Exceeded? (Yes/No)	Yes	Yes	No

Source: EIR Appendix D, Alternative 8 AQ/GHG Summary.

Acronyms: NOx = nitrogen oxides, ROG = reactive organic gases, PM10 = course particulate matter, DPM = Diesel Particulate Matter.

Emissions for rail and truck trips in other air districts were calculated and added to the maximum daily emissions for Phase 1 of the Proposed Project, as they would occur at the same time (see Table 5-8). The worst-case scenario for the SMVR-SB site was used for the SBCAPCD reported emissions. Like the Proposed Project, none of these air districts would experience an exceedance of the SBCAPCD thresholds. As such, the increase in criteria pollutant emissions in SBCAPCD, VCAPCD, and MDAQMD would be less than significant (Class III).

Table 5-8. Worst Case Rail Phase 1 Unmitigated Emissions in Other Air Districts (pounds per day)

Air District	NOx	VOC	PM10	PM2.5	CO	SOx
Santa Barbara County Air Pollution Control District (SBCAPCD)	7.42	0.83	0.54	0.22	24.70	0.10
Ventura County Air Pollution Control District (VCAPCD)	0.58	0.02	0.17	0.01	0.21	0.00
Mojave Desert Air Quality Management District (MDAQMD)	2.47	0.06	0.71	0.05	0.88	0.00
SBCAPCD Threshold	25	25	80	80	-	-
Threshold Exceeded? (Yes/No)	No	No	No	No	N/A	N/A

Source: EIR Appendix D, Alternative 8 AQ/GHG Summary.

Acronyms: NOx = nitrogen oxides, VOC = volatile organic compounds, PM10 = course particulate matter, PM2.5 = fine particulate matter, CO = carbon monoxide, SOx = sulfur oxides.

Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, impacts regarding a substantial increase in criteria air pollutants would be less than significant (Class III).

Phase 2

Under Alternative 8, Phase 2 decommissioning activities would be similar to the Proposed Project, with the exception that the East and West Breakwaters would be demolished and removed by either a land-based or marine-based approach during Phase 2. The additional emissions from Alternative 8 would cause Phase 2 emissions to exceed the daily SLOCAPCD NOx + ROG threshold (see Table 5-9). Additionally, with the additional emissions attributed to Breakwater removal, impacts for Phase 2 would exceed the SLOCAPCD threshold for quarterly NOx and ROGs by 11.32 tons per quarter, and Exhaust PM10 by 0.91 tons per quarter (see Table 5-10).

Table 5-9. Alternative 8, DCPP Site, Phase 2 Maximum Unmitigated Daily Emissions (pounds per day)

Phase	NOx + ROG	PM10	PM2.5	CO	SOx
Alt 8 Additional Emissions, DCPP Site	286.49	22.53	10.51	244.99	0.39
Proposed Project Emissions	28.42	32.94	8.38	85.91	0.25
Total Alt 8 Emissions including Phase 2 of Proposed Project	314.91	55.47	18.89	330.90	0.64
SLOCAPCD Threshold	137	-	-	-	-
Threshold Exceeded? (Yes/No)	Yes	N/A	N/A	N/A	N/A

Source: EIR Appendix D, Alternative 8 AQ/GHG Summary.
Acronyms: NOx = nitrogen oxides, VOC = volatile organic compounds, PM10 = course particulate matter, PM2.5 = fine particulate matter, CO = carbon monoxide, SOx= sulfur oxides.

Table 5-10. DCPP Site, Phase 2 Maximum Unmitigated Quarterly Emissions (tons per quarter)

Phase	NOx + ROG	Exhaust PM10 or DPM	Fugitive PM10
Alt 8 Additional Emissions, DCPP Site	13.04	1.02	0.96
Proposed Project Phase 2, DCPP Site	0.78	0.02	0.54
Alt 8, DCPP Site	13.82	1.04	1.50
SLOCAPCD Threshold	2.5	0.13	2.5
Threshold Exceeded? (Yes/No)	Yes	Yes	No

Source: EIR Appendix D, Alternative 8 AQ/GHG Summary.
Acronyms: NOx = nitrogen oxides, ROG = reactive organic gases, PM10 = course particulate matter, DPM = Diesel Particulate Matter.

Implementation of MM AQ-1 to achieve NOx and ROG emission reductions via a Decommissioning Activity Management Plan (DAMP), and MM AQ-2 to provide funding for off-site mitigation of all emissions in excess of the quarterly thresholds (offsetting up to 11.32 tons of ozone precursors and 0.91 tons of DPM per quarter), would ensure that the effects of the CSLC Full Removal Alternative would be mitigated to below the applicable thresholds of 2.5 tons per quarter of NOx + ROG, and 0.13 tons per quarter of DPM. For Alternative 8, Phase 2 impacts would be less than significant with mitigation (Class II).

Mitigation Measures for Impact AQ-2. See Section 4.2 for full text of measures.

AQ-1 Implement a Decommissioning Activity Management Plan (DAMP)

AQ-2 Provide Funding for Off-site Mitigation of Equipment Emissions

Impact AQ-3: Expose sensitive receptors to substantial pollutant concentrations (Class II: Less than Significant with Mitigation).

Phase 1

The analysis of criteria pollutant emissions under Impact AQ-2 finds that Phase 1 emissions of ozone precursors would exceed the SLOCAPCD thresholds. Implementing the recommended mitigation measures for Impact AQ-2 would require PG&E to implement a decommissioning activity management plan (MM AQ-1) and to achieve off-site emissions reductions (MM AQ-2) to offset the effects of ozone precursor emissions. As such, the Phase 1 emissions of ozone precursors would be offset to ensure that they do not exceed the emissions thresholds, and sensitive receptors in the region would not be exposed to substantial pollutant concentrations of ozone and associated health impacts (Class II).

For sensitive receptors nearest to the DCPP site, the Proposed Project's Phase 1 on-site demolition, marine vessels, and truck travel results in an excess cancer risk of 1.28 chances in one million at the Maximum Exposed Individual at a Residential location (see Table 4.2-15) in the community of Avila Beach (PG&E, 2022e). The CSLC Full Removal Alternative includes the demolition activities of the Proposed Project as well as the demolition of the Intake Structure and Breakwaters. The pollutant concentrations that would be in addition are of similar magnitude to the Proposed Project. Due to the distance to the nearest sensitive receptors, the excess cancer risks would not exceed 10 excess cancer cases in a million for all receptors. This represents a less-than-significant impact for all receptors for the CSLC Full Removal Alternative activities at the DCPP site (Class III).

Railyards

The most exposed off-site worker receptors near the SMVR-SB site would have 0.62 chances in one million for the Proposed Project and noncancer chronic health hazards for the Proposed Project scenario would be less than applicable thresholds (PG&E, 2022e). The addition of demolition activities from the CSLC Full Removal would not create levels that would exceed any threshold of significance for adverse health effects and would not be greater than 10 excess cancer cases in a million for all receptors as waste would be shipped offsite by truck or barge. This represents a less-than-significant impact for all receptors for the CSLC Full Removal Alternative activities at the SMVR-SB (Class III).

Phase 2

Under Alternative 8, Phase 2 decommissioning activities would be similar to the Proposed Project, with the exception that the East and West Breakwaters would be demolished and removed by either a land-based or marine based approach during Phase 2. The analysis of criteria pollutant emissions under Impact AQ-2 shows that Phase 2 emissions of ozone precursors and DPM would exceed the SLOCAPCD thresholds. Implementing the recommended mitigation

measures for Impact AQ-2 would require PG&E to implement a decommissioning activity management plan (MM AQ-1) and to achieve off-site emissions reductions (MM AQ-2) to offset the effects of ozone precursor and DPM emissions. As such, the Phase 2 emissions of ozone precursors and DPM would be offset to ensure that they do not exceed the emissions thresholds, and sensitive receptors in the region would not be exposed to substantial pollutant concentrations of ozone and associated health impacts (Class II).

Mitigation Measures for Impact AQ-3. See Section 4.2 for full text of measures.

AQ-1 Implement a Decommissioning Activity Management Plan (DAMP)

AQ-2 Provide Funding for Off-site Mitigation of Equipment Emissions

Impact AQ-4: Create objectionable odors affecting a substantial number of people (Class III: Less than Significant).

Phase 1

Typical objectional odors during construction include ammonia, chlorine, and hydrogen sulfide. Alternative 8 would not create these pollutants in measurable quantities, although they are expected to be quantifiably greater than the Proposed Project. Diesel equipment exhaust could be a potential source of odor during any of the decommissioning activities, although only for people immediately adjacent to the source. The additional decommissioning activities associated with Alternative 8 at the DCPP site would not create objectionable odors that would affect a substantial number of people resulting in a less-than-significant impact (Class III).

Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, impacts regarding objectionable odors would be less than significant (Class III).

Phase 2

Under Alternative 8, Phase 2 decommissioning activities would be similar to the Proposed Project, with the exception that the East and West Breakwaters would be demolished and removed by either a land-based or marine based approach during Phase 2. Alternative 8 Phase 2 activities would not create objectionable odors in measurable quantities, although they are expected to be quantifiably greater than the Proposed Project. Diesel equipment exhaust could be a potential source of odor during any of the decommissioning activities, although only for people immediately adjacent to the source. The additional decommissioning activities associated with Breakwater demolition in Alternative 8 at the DCPP site would not create objectionable odors that would affect a substantial number of people resulting in a less-than-significant impact (Class III).

Mitigation Measures for Impact AQ-4. No mitigation measures are required.

Cumulative Impacts

Under this alternative, the potential for cumulative impacts on air quality would be greater than the Proposed Project due to the greater level of demolition and associated transportation

activities for waste removal. As such, Alternative 8 impacts related to increasing criteria pollutant emissions thereby exceeding thresholds (Impact AQ-2) and exposing sensitive receptors to substantial pollutant concentrations (Impact AQ-3) would be mitigated to levels that would not be cumulatively considerable for Phase 1 and 2 activities. Conformity with air quality plans (Impact AQ-1) and odor impacts (Impact AQ-4) would continue to be not cumulatively considerable.

Biological Resources – Marine

Impact MBIO-1: Destroy or degrade marine habitat(s) during decontamination and dismantlement activities including habitat of state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat (Class I: Significant and Unavoidable).

Phase 1

In addition to the Discharge Structure removal activities occurring in Phase 1, Alternative 8 includes removal of the Intake Structure and restoration of that area.

Intake Structure Removal and Restoration. Intertidal and subtidal habitats around the Intake Structure would be directly impacted during cofferdam installation/removal, dewatering, and Intake Structure removal, and would result in the temporary loss of benthic habitat and mortality to all sessile species, species with limited mobility, and species trapped within the cofferdam area for the duration of the activity. The estimated duration of the Intake Structure removal activity is assumed to be similar to the Discharge Structure removal activity (i.e., 38 months), starting in Phase 1 and continuing into Phase 2.

The intertidal and shallow subtidal habitat immediately upcoast of the Intake Structure where the cofferdam would join the shoreline consists of artificial tribars and rock, while downcoast of the Intake Structure where the cofferdam would join the shoreline, the intertidal and shallow subtidal habitat consists of rock and sand (Figure 5-17). A total of 22 red abalone (*Haliotis rufuscens*) were observed upcoast of the Intake Structure during a 2020 survey (PG&E, 2021b). Unlike black abalone, red abalone are not protected under the FESA. Downcoast of the Intake Structure, the area was dominated by non-coralline crust and coralline crust, in addition to the red alga *M. papillatus*. Common invertebrates included limpets, barnacles, and crabs (PG&E, 2021b). No black abalone, surfgrass, or the invasive seaweed *S. horneri* were observed in the area adjacent to the Intake Structure; however, eelgrass and kelp have been reported. This habitat also represents black abalone and leatherback turtle critical habitat (PG&E, 2021b).

Table 5-11 summarizes the habitat types that would be affected within the various Project footprints (i.e., cofferdam footprint, dewatered area, anchorage area, and restoration area). Approximately 1.36 acres of intertidal and subtidal marine habitat would be directly impacted from cofferdam construction (this includes a 25-foot buffer on the offshore edge) (Figure 5-17), with the majority consisting of sand (0.82 acres), mud and sand (0.41 acres), and rock (0.26 acres) (Table 5-11). The dewatered area consists of approximately 0.48 acres of mixed sand and rocky habitat (Table 5-11). Therefore, cofferdam construction would directly impact approximately 1.84 acres (1.36+0.48) of both water column and benthic marine habitat, some of which would

be considered EFH HAPC (0.60 acres of giant kelp and 0.004 acres of eelgrass [see Figure 4.4-4]), as well as approximately 1.35 acres of black abalone critical habitat, and 1.47 acres of leatherback turtle critical habitat (Figure 5-17).

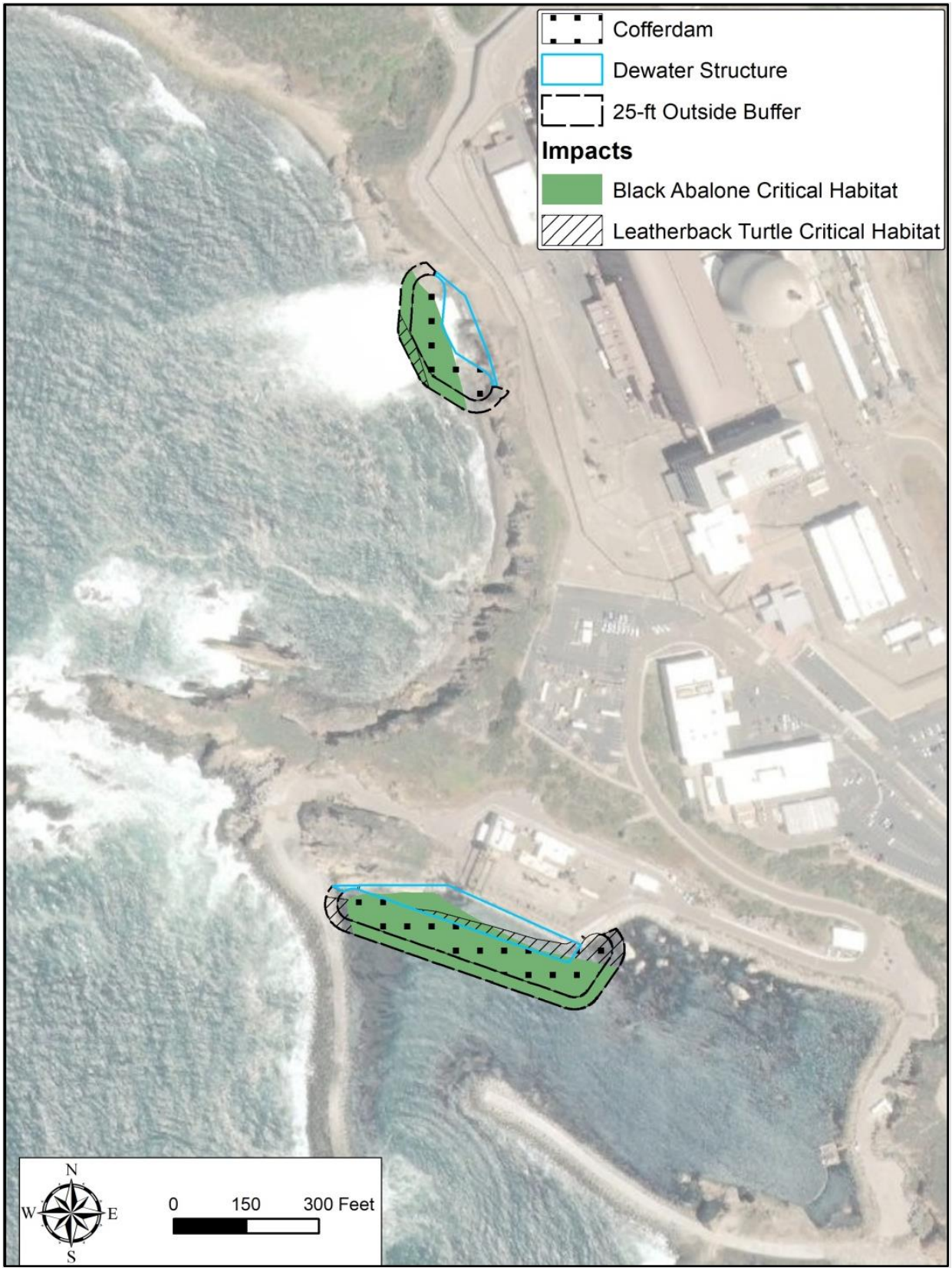
Following removal of the Intake Structure, approximately 0.29 acres of 1-ton quarry rock would be placed within the void to not only maintain stability and the natural profile of the bluff, but also to create new intertidal and subtidal rocky habitat (Figures 5-14 and 5-17). While these impacts would be temporary, there would be a direct impact to marine habitat (EFH and black abalone critical habitat) associated with the cofferdam and Intake Structure removal, as well as loss of marine organisms that would be considered significant. Implementation MM MBIO-3 (*Water Quality Monitoring Plan*), MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*), MM MBIO-5 (*Preconstruction Survey for Black Abalone*), and MM MBIO-6 (*Marine Habitat Restoration and Monitoring Plan*) would reduce impacts to marine habitats to the extent feasible; however, because of the uncertainty associated with the success of relocation of black abalone (MMs MBIO-4 and MBIO-5), impacts would remain significant and unavoidable (Class I). ALT MM MBIO-14 (*Marine Habitat Restoration and Monitoring Plan – Intake Structure*) would also reduce impacts to habitat during removal and restoration of the Intake Structure. Note that after the Intake Structure and cofferdam are removed, and the area restored (Intake Structure quarry rock fill), the area would provide approximately 0.29 acres (see Table 5-11) of habitat for black abalone and other marine organisms.

Table 5-11. Intake Structure Removal Habitat Impact Summary

Location	Area	Habitat Type	Area (m^2)	Acres
Intake Cove	Coffer Dam w/ 25’ Buffer	Artificial tribars	304	0.08
		Cobble	30	0.01
		Mixed Rock, Cobble, and Mud	376	0.09
		Mostly Mud	479	0.12
		Mud and Sand	1,476	0.36
		Rocks	557	0.14
		Sand (Shell Gravel)	2,265	0.56
		Total	5,486	1.36
Intake Cove	Dewatered Area	Cobble	195	0.05
		Mud and Sand	191	0.05
		Rocks	472	0.12
		Sand (Shell Gravel)	1,075	0.27
		Total	1,949	0.48
Intake Cove	Coffer Dam w/ 25’ Buffer Dewatered Area	Kelp	2,419	0.60
Intake Cove	Coffer Dam w/ 25’ Buffer	Eelgrass	16	0.004
Intake Cove	Barge Footprint (Breakwater Removal – Marine Approach)	Mixed Rock, Cobble, and Mud	1,553	0.39
Intake Cove	Intake Structure Fill	Quarry Rock Fill*	+1,167	+0.29
Critical Habitat				
Intake Cove	Coffer Dam w/ 25’ Buffer Dewatered Area	Black Abalone Critical Habitat	5,472	1.35
Intake Cove	Coffer Dam w/ 25’ Buffer Dewatered Area	Leatherback Turtle Critical Habitat	5,967	1.47

*Fill will create new rocky habitat.

Figure 5-17. Critical Habitat Impact Map for CSLC Full Removal Alternative



Source: PG&E, 2021c.

PG&E developed a Turbidity Monitoring Plan for decommissioning activities associated with the demolition and removal of the Discharge Structure and restoration activities, including placement and removal of the cofferdam (PG&E, 2022g). The Turbidity Monitoring Plan calls for monitoring of receiving water to ensure turbidity levels are acceptable based on permit requirements. MM MBIO-3 (*Water Quality Monitoring Plan*) would require PG&E to update the Turbidity Monitoring Plan to include permit requirements for monitoring for turbidity and other water quality parameters such as dissolved oxygen to ensure that Intake Structure activities were not contributing to conditions that could degrade sensitive marine habitats. If water quality monitoring detected persistent and elevated levels of turbidity, BMPs would be implemented to avoid turbidity impacts to receiving waters and adjacent habitats. MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*) would require PG&E to develop a plan to avoid impacts to marine biological resources, receiving waters, sensitive habitats, and potentially protected species from all aspects associated with cofferdam construction and removal. The plan would require tasks such as a pre-construction habitat and biological survey, an approach to relocate marine life, agency authorization and permitting, and dewatering controls to minimize turbidity, and inspection schedule to ensure compliance. MM MBIO-5 (*Preconstruction Survey for Black Abalone*) would require PG&E to conduct a pre-construction survey for black abalone, and if black abalone are discovered, an approach to relocate them to predetermined areas located outside the immediate impact area. MM MBIO-14 (*Marine Habitat Restoration and Monitoring Plan – Intake Structure*) would require updating the Marine Habitat Restoration and Monitoring Plan to include specific methods, procedures, goals, and performance standards for the Intake Structure restoration effort.

Another direct impact associated with the Intake Structure removal activity includes potential degradation of marine habitat due to temporary anchoring of vessels and barges in the Intake Cove, as would be done under the Proposed Project. While no anchoring plan has been developed for the Intake Structure Removal, the analysis assumes that the conceptual anchoring plan for waste transportation activity would be implemented (see Section 2.3.19.2, *Waste Transportation*, and Figure 2-31). While barges and tugboats would not use subtidal moorings or anchors, which would eliminate potential direct impacts to sensitive rocky, kelp bed, or eelgrass habitat, the storage of tugs and barges may result in shading impacts that could potentially affect kelp or eelgrass beds reducing the quality or quantity of these habitats. Both canopy kelp and eelgrass are perennial species with an active growing season that extends from the spring through the fall and are designated EFH HAPC. While no shading impacts would be expected for kelp since kelp plants can have large surface canopies and are less susceptible to shading impacts than seagrasses or other types of submerged marine vegetation, eelgrass beds may be affected by barge shading and any impact would be considered significant. Implementation of MM MBIO-1 (*Eelgrass Monitoring and Mitigation Plan*) and MM MBIO-2 (*Marine Safety and Anchoring Plan*) would reduce the potential for impacts to eelgrass to a less-than-significant level (Class II). PG&E developed a Marine Safety and Anchoring Plan (PG&E, 2022f) for decommissioning activities associated with the demolition and removal of the Discharge Structure and restoration activities, which includes information regarding operational limits, mooring systems, and conceptual mooring locations; however, the plan but does not include specifics for anchoring and mooring in the Intake Cove. MM MBIO-2 (*Marine Safety and Anchoring Plan*) would require updating the Marine Safety and Anchoring Plan to include a pre-construction seafloor habitat mapping survey

in the Intake Cove to delineate eelgrass beds and to develop an anchoring system that would avoid impacts to eelgrass and other sensitive habitats from Project-related actions.

Impacts may also occur to approximately 1.47 acres of leatherback turtle critical habitat due to the inadvertent release of hazardous materials such as fuel or oil from construction equipment and support vessels (Table 5-11). However, implementation of ALT MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) and MM MBIO-8 (*Oil Spill Response Plan*) would reduce the impacts to leatherback turtle critical habitat to a less-than-significant level (Class II). ALT MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal Plan*) would require updating PG&E's Marine Wildlife Contingency Plan (PG&E, 2021b) to ensure that no harassment of marine mammals or other marine life occurs during Breakwater and Intake removal activities and shall include a description of the work activities; a risk analysis; qualifications, number, location, and roles/authority of marine wildlife observers (MWOs); exclusion zones; and monitoring and reporting requirements for identified avoidance and minimization measures. MM MBIO-8 (*Oil Spill Response Plan*) would require updating PG&E's Oil Spill Response Plan (PG&E, 2022h) to include at a minimum, a description of the Project activity and geographic area; pre-work planning needed to prepare for a possible nearshore oil spill; initial response procedures including agency notifications and onsite team communications; how the waste from the oil spill will be handled and disposed of; and a description of how the area will be decontaminated and how any contaminated materials will be handled. With implementation of the recommended mitigation measures, impacts to marine habitats would be reduced to a less-than-significant level (Class II).

Railyards

Use of the railyards would continue under Alternative 8. The railyards are not located in or near a marine area. Therefore, no impact would occur.

Phase 2

Breakwater Removal and Restoration. The Breakwaters cover approximately 6.9 acres, with approximately 5.95 acres of marine intertidal and subtidal habitat (i.e., approximately 0.95 acres of upland habitat), and are constructed of concrete tribars. Intertidal surveys noted a high diversity and abundance of red algal species, with giant kelp present along the East Breakwater but not present along the West Breakwater (PG&E, 2021b). The most common invertebrates along both Breakwaters included barnacles and the limpets, and along the East Breakwater, the tube snails *Serpulorbis squamigenus* and *Spirobranchus spinosus*, and the chiton *Mopalia muscisa* were more frequently observed than they were at the West Breakwater (PG&E, 2021b). Fourteen red abalone were observed in the intertidal zone along the inside of the East Breakwater, while no abalone were observed along the riprap or on the West Breakwater. One black abalone was found during the survey on the East Breakwater and three black abalone were found on the West Breakwater. All four abalone were observed on the intertidal transects on the outside of the Intake Cove (PG&E, 2021b).

Subtidal surveys along the Breakwaters also recorded a high diversity and abundance of red algal species, as well as kelps such as *Laminari setchellii* and *Nereocystis luetkeana* which were more common on the exposed offshore sides of the Breakwaters (PG&E, 2021b). Invertebrates found

on all transects included the sessile tube snail *S. squamigerus* and purple urchins. Bat stars were more common on the inshore than offshore transects, while the stalked tunicate *Styela montereyensis* and other tunicate species were more commonly observed in the offshore areas. A total of 29 fish taxa was recorded during the Breakwater surveys, with blue rockfish and striped surfperch being the most commonly observed fishes. Other commonly observed fishes observed included the black and yellow rockfish, olive rockfish, and California sheepshead. Senorita and juvenile striped surfperch were only observed on the outside of the Breakwaters, while blackeye gobies were only observed inside of the Breakwaters (PG&E, 2021b). Forty-seven (47) red abalone were observed along the Breakwaters with most located on the inshore face of the West Breakwater (PG&E, 2021b).

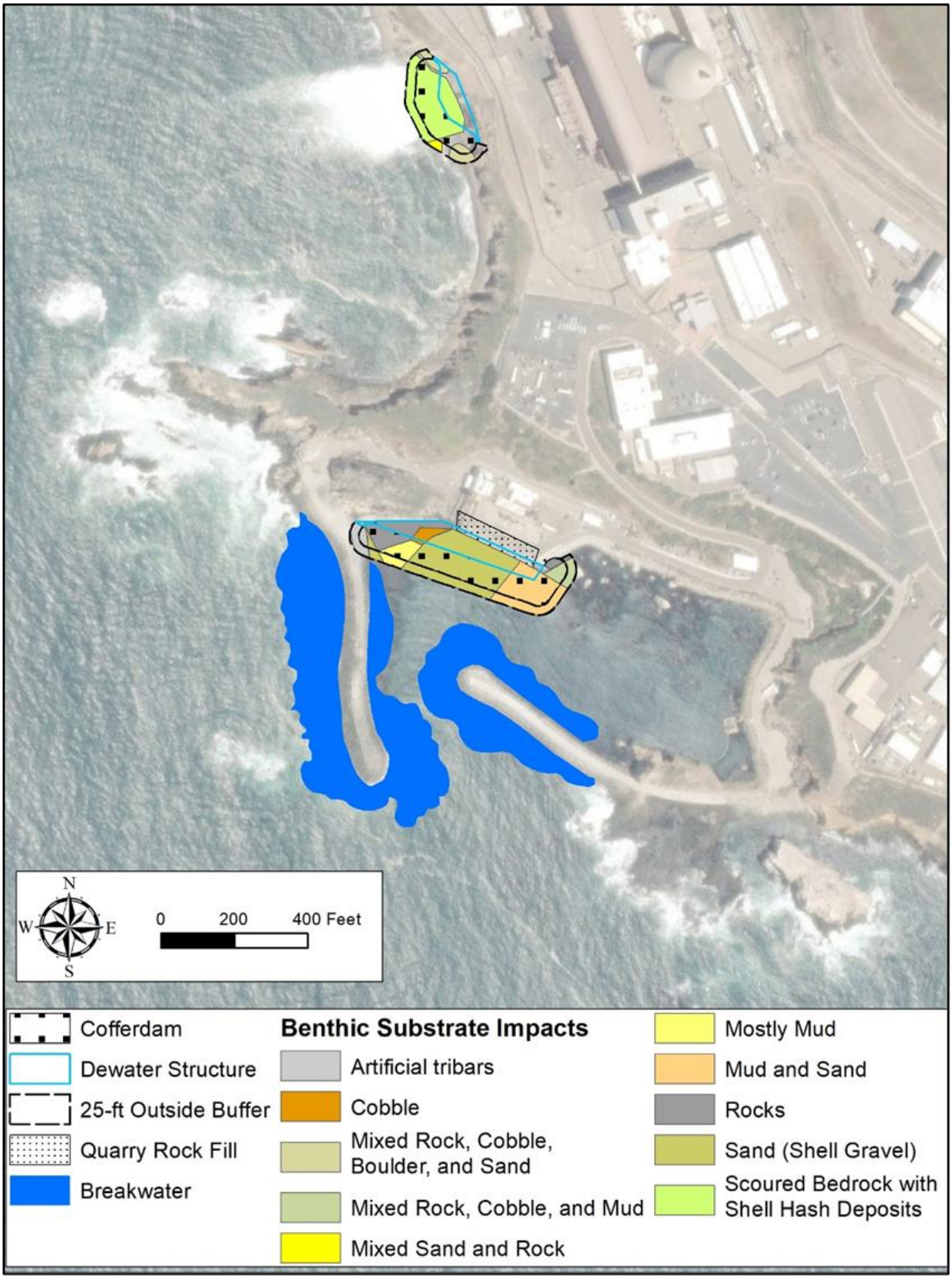
Compared to the Proposed Project, the CSLC Full Removal Alternative would have considerably greater impacts to marine habitat primarily due to the loss of rocky intertidal and subtidal substrata and their respective communities provided by the Breakwaters. While the removal of the Breakwaters would create approximately 6.9 acres of open water habitat, a more significant impact would be the loss of approximately 5.95 acres of rocky intertidal and subtidal substrate and associated communities including canopy kelp HAPC, and the intertidal and shallow subtidal area to a depth of approximately –18 ft MLLW that would be considered black abalone habitat (Table 5-12 and Figure 5-18). No approach has been developed to identify feasible options to compensate for injuries related to black abalone and black abalone habitat loss due to Breakwater removal. Implementation of ALT MM MBIO-12 (*Black Abalone Restoration Plan*) would reduce the impact to the extent feasible. ALT MM MBIO-12 would require PG&E to prepare a Black Abalone Restoration Plan that would identify and develop feasible options to compensate for injuries related to black abalone habitat loss due to Breakwater removal, with the goal of successfully establishing black abalone populations on restored or new rocky habitat created through implementation of this plan. The plan shall also identify goals, methods, procedures, and performance standards for the restoration effort.

Table 5-12. Intake Cove Breakwater Removal Habitat Impact Summary

Location	Area	Habitat Type	Area (m^2)	Acres
Breakwater Removal and Restoration				
Intake Cove	Submerged Portion of Breakwater	Removal of Artificial tribars*	-24,090	-5.95
Intake Cove	Creation of Open Water Habitat	Open Water	+27,935	+6.9
Intake Cove	Potential Loss with Breakwater Removal**	Eelgrass	-835	-0.21

*Removal will result in loss of rocky habitat.
**Breakwater removal may result in conditions unsuitable for eelgrass.

Figure 5-18. Habitat Impact Map for CSLC Full Removal Alternative



Source: PG&E, 2021c.

Two approaches may be used to remove the Breakwaters (i.e., land-based or marine-based), but regardless of the approach, it would result in the resuspension of sediment and increased turbidity that would impact water quality and potentially result in reducing primary production for marine flora such as algae, kelp, and eelgrass, and possibly smothering sensitive rocky habitats. The duration of the Breakwater Removal and Restoration Activity has been estimated to take approximately four years. Therefore, while turbidity may be short-term and temporary given the tidal exchange within the Intake Cove, the potential long-term nature of the activity could result in impacts to sensitive rocky habitat and eelgrass beds. Similarly, the restoration effort which entails placing approximately 100 to 500 D50 (1-ton) quarry rock in the Intake Cove would also result in the resuspension of sediment and increased turbidity. This would be considered a significant impact but would be reduced to a less-than-significant level (Class II) through implementation of MM MBIO-1 (*Eelgrass Monitoring Plan*) and MM MBIO-3 (*Water Quality Monitoring Plan*). MM MBIO-1 (*Eelgrass Monitoring Plan*) would require surveys conducted in conformance with the California Eelgrass Mitigation Policy (CEMP) which would delineate eelgrass beds in the Intake Cove, and while not specified in the CEMP, surveys could also delineate rocky habitat. Once habitats were identified, actions could be taken to avoid impacts to these sensitive habitats. MM MBIO-3 (*Water Quality Monitoring Plan*) would require PG&E to update the Turbidity Monitoring Plan to include permit requirements for monitoring for turbidity and other water quality parameters such as dissolved oxygen to ensure that Project-related activities were not contributing to conditions that could degrade sensitive marine habitats. If water quality monitoring detected persistent and elevated levels of turbidity or depressed dissolved oxygen concentrations, BMPs would be implemented to avoid turbidity impacts to receiving waters and adjacent habitats.

If a marine-based removal approach is used, another direct impact associated with the Breakwater removal activity includes potential degradation of marine habitat due to anchoring of vessels and barges. Spuds, anchors, and chains used to moor vessels and barges may damage or degrade rocky reef habitat and canopy kelp (both EFH HAPC), including black abalone critical habitat (see Figure 4.4-2). These impacts would be considered significant; however, implementation of ALT MM MBIO-13 (*Marine Safety and Anchoring Plan – Breakwater Removal*) would reduce the impacts to a less-than-significant level (Class II). PG&E has developed a Marine Safety and Anchoring Plan for the Discharge Cove (PG&E 2022b), but ALT MM MBIO-13 (*Marine Safety and Anchoring Plan – Breakwater Removal*) would require updating the Marine Safety and Anchoring Plan for the Breakwater removal activity and would include a pre-construction seafloor habitat mapping survey to delineate EFH HAPC (i.e., rocky reef and canopy kelp) and to develop an anchoring system that would avoid impacts from Project-related actions.

One indirect impact associated with removing the Breakwaters would be exposing the marine habitats that are currently sheltered to the open ocean. While it is expected that the biological community would eventually resemble adjacent areas, one unique community that is currently present within the Intake Cove is eelgrass. Eelgrass most commonly occurs on unconsolidated soft-bottomed substrate in bays, estuaries, and relatively protected open coastal areas, and it is likely that removal of the Breakwaters would result in conditions that would not be suitable to support eelgrass (i.e., exposure to open ocean conditions that would result in loss of soft bottom substrate where it currently exists, as well as exposure to increased water motion). Baseline eelgrass surveys conducted in 2020 estimated approximately 0.21 acres of eelgrass in the Intake

Cove (Table 5-12 and Figure 4.4-4); however, the surveys were not in compliance with CEMP and therefore, possibly underestimated actual coverage (PG&E, 2021b). Any impact to eelgrass beds is considered significant but would be reduced to a less-than-significant level (Class II) through implementation of MM MBIO-1 (*Eelgrass Monitoring Plan*). MM MBIO-1 would require surveys conducted in conformance with the CEMP which offers specific guidelines for monitoring, as well as appropriate responses and mitigation measures for activities that threaten eelgrass vegetated habitats, and any loss of eelgrass would require mitigation at a 1.2:1 ratio (NOAA, 2014).

Mitigation Measures for Impact MBIO-1. See Section 4.4 for full text of measures.

MBIO-1 Eelgrass Monitoring Plan

MBIO-2 Marine Safety and Anchoring Plan

MBIO-3 Water Quality Monitoring Plan

MBIO-4 Cofferdam Installation and Dewatering Plan

MBIO-5 Preconstruction Survey for Black Abalone

MBIO-6 Marine Habitat Restoration and Monitoring Plan

MBIO-8 Oil Spill Response Plan

ALT MBIO-12 Black Abalone Restoration Plan. Prior to commencement of Breakwater removal activities within the DCPP Intake Cove, the Applicant or its designee shall prepare a Black Abalone Restoration Plan (Plan). The Plan shall be submitted to the County, CSLC, CCC, CDFW, and NOAA Fisheries for review and approval at least 90 days prior to Breakwater removal activities. The Plan shall identify and develop feasible options to compensate for injuries related to black abalone habitat loss due to Breakwater removal, with the goal of successfully establishing black abalone populations on restored or new rocky habitat created through implementation of this Plan. Relocation of individual black abalone present on the Breakwater is addressed under MM MBIO-5. The Plan, at a minimum, shall include:

- Preparation of a NOAA Habitat Equivalency Analysis to determine the quantity of restoration required to compensate for injuries related to habitat loss due to Breakwater removal (this may include rocky intertidal or shallow subtidal habitat or both). The analysis shall include:
  - Survey of the distribution and abundance of black abalone on the Breakwaters; and
  - Use of historical and current black abalone data to develop target restoration density.
- Preparation of a Feasibility Analysis for possible restoration options, that may include habitat creation (i.e., creation of new rocky intertidal and shallow subtidal habitat), habitat restoration (i.e., enhancement of existing rocky intertidal and shallow subtidal habitat), abalone transplantation, and/or a

combination of the above. Additional elements of the feasibility analysis shall include:

- Identification of potential areas for habitat creation, restoration, or abalone transplantation, including constraint and cost analyses;
- Identification of approach(es) to relocate and transplant black abalone; and
- Identification of compensatory or out-of-kind mitigation options (e.g., funding other abalone transplanting efforts or rocky reef restoration).

- Preparation of a Compliance Monitoring Program (methods, materials, analysis, reporting) that includes a schedule with milestones, which is updated and tracked throughout program implementation. Additional elements of the compliance monitoring program shall include:
  - Establishment of success criteria in consultation with NOAA Fisheries and CDFW as a Trustee Agency.

ALT MBIO-13 Marine Safety and Anchoring Plan – Breakwater Removal. Prior to Breakwater removal, the Applicant or its designee shall update their Marine Safety and Anchoring Plan (PG&E, 2022f) to avoid impacts to EFH HAPC such as rocky reef habitat, canopy kelp, or eelgrass beds from the Breakwater Removal Activity. The plan would be developed following the analysis of a pre-construction seafloor habitat and bathymetric survey. Additionally, a confirmation or ground truthing survey shall be conducted to ensure that all pre-determined anchor locations are positioned in sedimentary habitats and avoids impacts to rocky substrata, kelp, or eelgrass beds. The plan may also include the types and sizes of vessels to be anchored, anchoring and mooring systems that may be utilized, and general anchoring procedures. The plan shall be submitted to County, CCC, CSLC, CDFW, and NOAA Fisheries for review and approval prior to the commencement of Project activities. Documentation of the mooring system installation shall be submitted to the County within 30 days of installation to document compliance with this measure.

ALT MBIO-14 Marine Habitat Restoration and Monitoring Plan – Intake Structure. During Phase 1 and prior to Intake Structure Removal and Restoration, the Applicant or its designee shall update the Marine Habitat Restoration and Monitoring Plan to outline the restoration and subsequent monitoring associated with the restoration of the Intake Structure. The plan shall provide specific methods, procedures, goals, and performance standards, and is expected to be an extension of the current marine monitoring program (PG&E, 2021b). A Marine Habitat Restoration and Monitoring Plan was developed for the Project (PG&E, 2021b), but the plan requires updating as it is dependent on the final restoration design (see MM MBIO-7). The plan shall be reviewed and approved by various agencies including, at a minimum, the County, CSLC, CCC, CDFW, and NOAA Fisheries prior to restoration activities.

ALT MBIO-15 Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal. Prior to Breakwater and Intake Removal, the Applicant or its designee shall develop a Marine Mammal and Sea Turtle Mitigation and Monitoring Plan to assess and minimize impacts associated with the Breakwater Removal and Intake Removal activities. The plan shall include numerical modeling and development of exclusion zones, and a monitoring program to avoid impacts and to ensure no harm or harassment to marine mammals or other sensitive species. A draft plan was developed for the Project (PG&E, 2021b), but a final plan shall be developed and approved by the County as part of NOAA Fisheries, CDFW, and USFWS consultation under the Marine Mammal Protection Act, and shall include:

- A description of the work activities including vessel size, activity types and locations, and Project schedule.
- A risk analysis (likelihood and consequence) of effects to marine mammals and sea turtles based on the most activity plans.
- For nearshore activities, the qualifications, number, location, and roles/authority of dedicated marine wildlife observers (MWOs). MWO tasks may include:
  - Establishing an exclusion zone for eliminating risk of impacts to marine wildlife.
  - Keeping a daily monitoring log detailing the marine mammals or sea turtles observed during the day and Project activities undertaken during those observations.
  - Digital photographs taken during the monitoring.
  - Training of crew, recording survey data, and providing a final report on the results of the monitoring.
  - Instructing vessel operators to observe low vessel speeds within the Discharge and Intake Coves and always maintain awareness of marine wildlife.
- For offshore activities, the distance, speed, and direction transiting vessels shall maintain when in proximity to a marine mammal or turtle, as follows:
  - Vessel operators shall make every effort to maintain a distance of at least 300 feet from sighted whales, and 150 feet or greater from sea turtles or smaller cetaceans whenever possible.
  - When small cetaceans are sighted while a vessel is underway (e.g., bow-riding), vessel operators shall attempt to remain parallel to the animal's course. When paralleling whales, vessels shall operate at a constant speed that is not faster than the whales' and shall avoid excessive speed or abrupt changes in direction until the cetacean has left the area.
  - When safety permits, vessel speeds shall not exceed 11.5 miles per hour (10 knots) when mother/calf pairs, groups, or large assemblages of cetaceans (greater than five individuals) are observed near an underway vessel. A

single cetacean at the surface may indicate the presence of submerged animals in the vicinity; therefore, prudent precautionary measures, such as decreasing speed and avoiding sudden changes in direction, should be exercised. The vessel shall route around the animals, maintaining a minimum distance of 300 feet.

  - Support vessels (i.e., barge tows) shall not cross directly in front of migrating whales, other threatened or endangered marine mammals, or sea turtles.
  - Vessels shall not separate female whales from their calves or herd or drive whales. If a whale engages in evasive or defensive action, support vessels shall drop back until the animal moves out of the area.

- For pile driving activities, measures shall be incorporated to reduce underwater noise and minimize potential impacts to fish, sea turtles, and marine mammals. The following noise reduction measures include:
  - Vibratory pile driving shall be used to the extent practicable.
  - During construction activities involving pile driving or extraction, the contractor, under direction of a qualified biologist, shall conduct monitoring within the applicable Zone of Influence (ZOI). The contractor shall halt in water pile driving or extraction work if any observations of marine mammals or sea turtles are made within the defined ZOI. Work shall not re-commence until it has been determined that the mammal(s) or turtle(s) have left the area or have not been seen on the surface within the ZOI for a period of 15 minutes.
  - A soft start or "ramp-up" procedure shall be utilized to provide nearby wildlife with an opportunity to respond by avoiding the sound source and vacating the area. When performing vibratory pile driving, the contractor shall commence work with a few short pulses followed by a 1-minute period of no activity, prior to commencing full activities. The purpose of this activity is to encourage turtles or marine mammals in the area to leave the project site prior to commencement of work. The contractor, under the direction of a qualified biologist, shall then commence monitoring as described above to determine if turtles or mammals are in the area. This process should be repeated if pile driving ceases for a period of greater than an hour.
- Observation recording procedures and reporting requirements in the event of an observed impact to marine wildlife. Collisions with marine wildlife shall be reported promptly to the NOAA Fisheries, CDFW, CCC, CSLC, and US Fish and Wildlife Service (USFWS) pursuant to each agency's reporting procedures.
- A final report summarizing daily reports and any actions taken shall be submitted to the County, NOAA Fisheries, CDFW, CCC, CSLC, and USFWS within 60 days following completion of monitoring.

Residual Impacts. Due to the uncertainty associated with the success of relocation of black abalone (MMs MBIO-4, MBIO-5), impacts associated with Discharge Structure and Breakwater

removal and restoration activities in Phases 1 and 2 of Alternative 8 and the potential to destroy or degrade marine habitat(s) would remain significant and unavoidable (Class I).

Impact MBIO-2: Harm or disturb marine special-status invertebrate, fish, reptile, bird, or mammal (Class I: Significant and Unavoidable).

Both the Intake Structure Removal and Restoration Activities (Phase 1) and Breakwater Removal and Restoration (marine-based approach) (Phase 2) include increased vessel activity. Despite the increase, impacts to special-status species such as marine mammals, sea turtles, fish, and seabirds would be similar (e.g., ship strikes, behavioral avoidance) to the Proposed Project, and therefore, the same mitigation measure would apply (MM MBIO-15, *Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*).

Phase 1

Intake Structure Removal and Restoration. The only special status species that may occur in the vicinity of the Intake Structure and potentially affected by Intake Structure Removal and Restoration is black abalone. Both intertidal and subtidal habitat around the Intake Structure would be directly impacted during cofferdam installation, dewatering, and removal, and would result in the temporary loss of benthic habitat and mortality to all sessile species, species with limited mobility, and species trapped within the cofferdam area. If black abalone were present around the Intake Structure during Project implementation, they may be crushed or killed during cofferdam installation and dewatering. This impact to black abalone would be considered significant. Implementation of MM MBIO-5 (*Preconstruction Survey for Black Abalone*) would reduce the impacts to the extent feasible. MM MBIO-5 (*Preconstruction Survey for Black Abalone*) would require PG&E to conduct a pre-construction survey for black abalone, and if black abalone are discovered, an approach to relocate them to predetermined areas located outside the immediate impact area. However, because of the uncertainty associated with the success of relocation of black abalone, impacts to marine special-status species would remain significant and unavoidable (Class I).

Railyards

Use of the railyards would continue under Alternative 8. The railyards are not located in or near a marine area. Therefore, no impact would occur.

Phase 2

Breakwater Removal and Restoration. The removal of the Breakwaters would result in the direct loss of all sessile species or species with limited mobility. The only special-status invertebrate known to occur on the Breakwaters is black abalone which have been observed on both the West and East Breakwaters (PG&E, 2021b – Marine Biological Resources Assessment). Although not protected under the FESA, other species of interest such as red abalone have also been observed on the Breakwaters. This impact to both black and red abalone would be considered significant. Implementation of MM MBIO-5 (*Preconstruction Survey for Black Abalone*) and ALT MM MBIO-16 (*Breakwater Removal Plan*) would reduce the impacts to the extent feasible. MM MBIO-5 (*Preconstruction Survey for Black Abalone*) would require PG&E to conduct a pre-construction

survey for black abalone, and if black abalone are discovered, an approach to relocate them to predetermined areas located outside the immediate impact area. ALT MM MBIO-16 (*Breakwater Removal Plan*) would require PG&E to develop a plan to avoid impacts to marine biological resources, receiving waters, sensitive habitats, and potentially protected species from all aspects associated with Breakwater Removal. The plan shall include tasks such as a pre-construction habitat and biological survey, an approach to relocate marine life, and water quality controls to minimize turbidity, and inspection schedule to ensure compliance. However, because of the uncertainty associated with the success of relocation of black abalone, impacts would remain significant and unavoidable (Class I).

The Breakwaters also serve as a haul-out area for California sea lions and harbor seals, while southern sea otters regularly occur within the Intake Cove (PG&E, 2021b). The removal of the Breakwaters may result in injury or death of marine mammals (discussed in ALT MBIO-3) and is expected to affect behavior and displace marine mammals, which would be considered a significant impact. Implementation of ALT MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) would reduce the impacts to a less-than-significant level (Class II), and would require updating PG&E's Marine Wildlife Contingency Plan (PG&E, 2021b – Marine Wildlife Contingency Plan) to address noise impacts and develop exclusion zones for the potential use of demolitions, ensure that no harassment of marine mammals or other marine life occurs during Breakwater Removal activities and shall include a description of the work activities; a risk analysis; qualifications, number, location, and roles/authority of MWOs; exclusion zones; and monitoring and reporting requirements for identified avoidance and minimization measures.

Mitigation Measures for Impact MBIO-2.

MBIO-5 **Preconstruction Survey for Black Abalone.** See Section 4.4.

ALT MBIO-15 **Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal**

ALT MBIO-16 **Breakwater Removal Plan.** Prior to Breakwater Removal, the Applicant or its designee shall develop a Breakwater Removal Plan to avoid impacts to marine biological resources, receiving waters, sensitive habitats, and potentially protected species from all aspects associated with the Breakwater Removal Activity. The plan, at a minimum shall include an organizational chart, a pre-construction habitat and biological survey, an approach to relocate marine life, controls to minimize turbidity, water quality monitoring that shall comply with any Clean Water Act permit requirements, and inspection schedule to ensure compliance. The plan shall be submitted to the County, CSLC, CDFW, and NOAA Fisheries for review and approval prior to the commencement of Project activities. Results of the habitat and biological survey, animal relocation efforts, and water quality monitoring shall be submitted to the County, NOAA Fisheries, and CDFW within 30 days following completion of surveys.

Residual Impacts. Due to the uncertainty associated with the success of relocation of black abalone (MM MBIO-5), impacts associated with Discharge Structure and Breakwater removal and

restoration activities in Phases 1 and 2 of Alternative 8 and the potential to harm or disturb special-status invertebrate would remain significant and unavoidable (Class I).

Impact MBIO-3: Generate noise or vibration levels above or below the water surface that could result in disturbance or injury to marine life (Class II: Less than Significant with Mitigation).

Phase 1

Intake Structure Removal and Restoration. The removal of the Intake Structure would require construction of a cofferdam to isolate the work area from the ocean similar to the Discharge Removal Activity. It was assumed that noise impacts for the Intake Cove would be similar to modeled results and impacts for the Discharge Removal Activity (PG&E, 2021b). While mortality is unlikely due to Project-related activities, behavioral changes could occur which would be considered a significant impact (Level B harassment) for any marine mammal or sea turtle (protected under FESA) that would be present within the impact zone. However, implementation of MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) would reduce impacts from Project-related activities to a less-than-significant level (Class II).

As part of the Proposed Project, PG&E would provide environmental awareness training and documentation for all construction personnel prior to the start of any Project activities (AC BIO-1). The training includes photographs and a description of the ecology of all special-status species known, or with potential, to occur on site, as well as other sensitive resources requiring avoidance near the Project site. The training also includes an overview of the required avoidance, minimization, and mitigation measures and Project boundaries and avoidance area. Additionally, PG&E would inspect equipment daily and report and document any inadvertent "take" of federal or state-listed species (ACs BIO-2 and BIO-5). MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) would require updating PG&E's Marine Wildlife Contingency Plan (PG&E 2021b) to ensure that no harassment of marine mammals or other marine life occurs during Project activities and shall include a description of the work activities; a risk analysis; qualifications, number, location, and roles/authority of MWOs; exclusion zones; and monitoring and reporting requirements for identified avoidance and minimization measures.

With implementation of the recommended mitigation measure, impacts to marine life from noise or vibration levels generated under Alternative 8 would be reduced to a less-than-significant level (Class II).

Railyards

Use of the railyards would continue under Alternative 8. The railyards are not located in or near a marine area. Therefore, no impact would occur.

Phase 2

Breakwater Removal and Restoration. Regardless of approach (land-based or marine-based), a noise generating activity from Breakwater removal includes an excavator reaching below the waterline to demolish the concrete tribars and removing the concrete rubble. This may result in

behavioral avoidance by fish and birds, sea turtles, and marine mammals, which would be considered a significant impact (Level B harassment) for any marine mammal or sea turtle (protected under FESA) that would be present within the impact zone. However, as part of the Proposed Project PG&E would conduct Worker Environmental Awareness Training, implement general marine wildlife protection measures such as inspecting equipment daily and reporting and documenting any inadvertent "take" of federal or state-listed species (ACs BIO-1, BIO-2, and BIO-5). Implementation of ALT MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) would reduce impacts from Project-related activities to a less-than-significant level (Class II).

ALT MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) would require updating PG&E's Marine Wildlife Contingency Plan (PG&E 2021b) to ensure that no harassment of marine mammals or other marine life occurs during Project activities and shall include a description of the work activities; a risk analysis; qualifications, number, location, and roles/authority of MWOs; exclusion zones; and monitoring and reporting requirements for identified avoidance and minimization measures.

An even greater concern would be the potential use of underwater explosives to break up the concrete ribs. PG&E prepared an Underwater Noise Impact Assessment (PG&E, 2022i) which provided a detailed analysis of underwater noise impacts on marine organisms associated from decommissioning activities; however, it did not address impacts associated with the use of demolitions. The use of explosives would result in the injury or mortality to all sessile organisms and fish within the Zone of Influence (ZOI), and would be considered an unavoidable impact; however, the impact would not be significant given that removal of the Breakwater would result in the loss of all sessile organisms, and no special-status fishes are expected to be present. However, marine mammals and sea turtles may also be injured or killed due to the use of explosives, which would be considered Level A harassment under the Marine Mammal Protection Act of 1972 and constitute a "take" of a protected species under FESA, respectively. This would be considered a significant impact; however, this impact would be reduced to less than significant (Class II) with implementation of ALT MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) which would require updating PG&E's Marine Wildlife Contingency Plan (PG&E, 2021b) to address noise impacts and develop exclusion zones for the potential use of demolitions, ensure that no harassment of marine mammals or other marine life occurs during Breakwater Removal activities and shall include a description of the work activities; a risk analysis; qualifications, number, location, and roles/authority of MWOs; exclusion zones; and monitoring and reporting requirements for identified avoidance and minimization measures.

Mitigation Measures for Impact MBIO-3.

ALT MBIO-15 Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal

Impact MBIO-4: Release pollutants into receiving water during decommissioning activities (Class I: Significant and Unavoidable).

Phase 1

Intake Structure Removal and Restoration. The Intake Structure Removal and Restoration Activities include increased vessel activity that may result in greater risk of fuel or oil spills. As discussed under Impact MBIO-4 for the Proposed Project, the consequence of a spill would result in the high likelihood of substantial degradation of marine habitats including receiving waters and critical habitat for listed species and would be considered a significant impact. PG&E would minimize the likelihood of a spill occurring through worker training and construction equipment maintenance (ACs BIO-1 and BIO-4); however, impacts would be potentially significant. Implementation of MM MBIO-8 (*Oil Spill Response Plan*) would reduce impacts to receiving waters and adjacent marine habitats to a less-than-significant level (Class II). MM MBIO-8 (*Oil Spill Response Plan*) requires updating PG&E's Oil Spill Response Plan (PG&E, 2022h) to include at a minimum, a description of the Project scope of work and geographic area; pre-work planning needed to prepare for a possible nearshore oil spill; initial response procedures including agency notifications and onsite team communications; how the waste from the oil spill will be handled and disposed of; and a description of how the area will be decontaminated and how any contaminated materials will be handled.

In addition, shore-based construction associated with Intake Structure Removal and Restoration activities may lead to runoff or sedimentation from stormwater or other discharges. Sedimentation could bury marine habitats, turbidity can reduce light penetration and affect primary productivity and affect other water quality parameters such as dissolved oxygen levels, and runoff can transport toxic pollutants from surfaces, such as vehicle parking or construction staging areas. These stressors could degrade water column habitat, rocky intertidal and subtidal habitat, and affect surfgrass and kelp canopy habitats, both of which are considered EFH HAPC, in addition to black abalone critical habitat. Impacts related to runoff and effects on water quality are discussed in Section 4.11, *Hydrology and Water Quality*, under Impact HWQ-1. Additionally, Impact HWQ-3 discusses impacts related to degradation of marine water quality.

Impacts from Intake Structure Removal and Restoration activities to receiving waters include increased turbidity associated with cofferdam construction that includes pile driving and filling to seal the structure, as well as dewatering the enclosed area. As discussed under Impact MBIO-4 for the Proposed Project, each of these actions has the potential to increase turbidity in adjacent receiving waters, which may lower dissolved oxygen in the immediate vicinity of the discharge point, and could reduce foraging for fishes, seabirds, and marine mammals, as well as increase sedimentation on rocky reef and canopy kelp habitat. PG&E would minimize turbidity through worker training and construction equipment maintenance (ACs BIO-1 and BIO-4); however, impacts would be potentially significant Implementation of MM MBIO-8 (*Oil Spill Response Plan*), MM MBIO-3 (*Water Quality Monitoring*), MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*), and ALT MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal)* would reduce the potential impacts to receiving waters, and marine mammals and sea turtles, to the extent feasible. However, because of the uncertainty

associated with the success of relocation of black abalone (MM MBIO-4), impacts would remain significant and unavoidable (Class I).

MM MBIO-8 (*Oil Spill Response Plan*) would require updating PG&E's Oil Spill Response Plan (PG&E, 2022e) to include at a minimum, a description of the Project scope of work and geographic area; pre-work planning needed to prepare for a possible nearshore oil spill; initial response procedures including agency notifications and onsite team communications; how the waste from the oil spill will be handled and disposed of; and a description of how the area will be decontaminated and how any contaminated materials will be handled. MM MBIO-3 (*Water Quality Monitoring Plan*) would require PG&E to update the Turbidity Monitoring Plan to include monitoring for turbidity and other water quality parameters such as dissolved oxygen to ensure that Project-related activities were not contributing to conditions that could degrade sensitive marine habitats. If water quality monitoring detected persistent and elevated levels of turbidity, BMPs would be implemented to avoid or minimize turbidity impacts to receiving waters and adjacent habitats. MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*) would require PG&E to develop a plan to avoid impacts to marine biological resources, receiving waters, sensitive habitats, and potentially protected species from all aspects associated with cofferdam construction and removal. The plan shall include tasks such as a pre-construction habitat and biological survey, an approach to relocate marine life, and dewatering controls to minimize turbidity, and inspection schedule to ensure compliance. MM MBIO-15 (*Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal*) would require updating PG&E's Marine Wildlife Contingency Plan (PG&E, 2021b) to ensure that no harassment of marine mammals or other marine life occurs during Project activities and shall include a description of the work activities; a risk analysis; qualifications, number, location, and roles/ authority of MWOs; exclusion zones; and monitoring and reporting requirements for identified avoidance and minimization measures.

With implementation of the recommended mitigation measures, impacts on marine life from the release of pollutants into receiving waters, and marine mammals and sea turtles under Alternative 8 would be reduced to the extent feasible but would remain significant (Class I).

Railyards

Use of the railyards would continue under Alternative 8. The railyards are not located in or near a marine area. Therefore, no impact would occur.

Phase 2

Breakwater Removal and Restoration. The Breakwater Removal and Restoration (marine-based approach) activities include increased vessel activity that may result in greater risk of fuel or oil spills. As discussed under Impact MBIO-4 for the Proposed Project, the consequence of a spill would result in the high likelihood of substantial degradation of marine habitats including receiving waters and critical habitat for listed species and would be considered a significant impact. PG&E would minimize the likelihood of a spill occurring through worker training and construction equipment maintenance (ACs BIO-1 and BIO-4); however, impacts would be potentially significant. Implementation of MM MBIO-8 (*Oil Spill Response Plan*) would reduce impacts to receiving waters and adjacent marine habitats to a less-than-significant level (Class II). MM MBIO-8 (*Oil*

Spill Response Plan) requires updating PG&E's Oil Spill Response Plan (PG&E, 2022h) to include, at a minimum, a description of the Project scope of work and geographic area; pre-work planning needed to prepare for a possible nearshore oil spill; initial response procedures including agency notifications and onsite team communications; how the waste from the oil spill will be handled and disposed of; and a description of how the area will be decontaminated and how any contaminated materials will be handled.

In addition, land-based construction associated with Breakwater Removal and Restoration activities may lead to runoff or sedimentation from stormwater or other discharges. Sedimentation could bury marine habitats, turbidity can reduce light penetration and affect primary productivity and affect other water quality parameters such as dissolved oxygen levels, while runoff can transport toxic pollutants from surfaces, such as vehicle parking or construction staging areas. These stressors could degrade water column habitat, rocky intertidal and subtidal habitat, and affect surfgrass and kelp canopy habitats, both of which are considered EFH HAPC, in addition to black abalone critical habitat. Impacts related to runoff and effects on water quality are discussed in Section 4.11, *Hydrology and Water Quality*, under Impact HWQ-1. Additionally, Impact HWQ-3 discusses impacts related to degradation of marine water quality. With implementation of the recommended mitigation measures, impacts on marine life from the release of pollutants into receiving waters, and marine mammals and sea turtles under Alternative 8 would be reduced to a less-than-significant level (Class II).

Mitigation Measures for Impact MBIO-4

MBIO-3 **Water Quality Monitoring.** See Section 4.4.

MBIO-4 **Cofferdam Installation and Dewatering Plan.** See Section 4.4.

MBIO-8 **Oil Spill Response Plan.** See Section 4.4.

ALT BIO-15 **Marine Mammal and Sea Turtle Mitigation and Monitoring Plan – Breakwater and Intake Removal**

Residual Impacts. Due to the uncertainty associated with the success of relocation of black abalone (MMs MBIO-4), impacts associated with Discharge Structure and Breakwater removal and restoration activities in Phases 1 and 2 of Alternative 8 and the potential to release pollutants into receiving waters would remain significant and unavoidable (Class I).

Impact MBIO-5: Introduce invasive non-native marine species during decontamination and dismantlement activities (Class II: Less than Significant with Mitigation).

Phase 1

Intake Structure Removal and Restoration. The risk of transfer of non-native aquatic species (NAS) is greater for the Full Removal Alternative compared to the Proposed Project primarily due to the increased vessel activity. However, the transfer of NAS between potential NAS hotspots, such as harbor facilities, and the DCPP area is unlikely due to the short periods of time the vessels are expected to stay within the harbors during construction (i.e., insufficient length of time for NAS to establish on the hulls), and the ballast water management controls imposed by port facilities. While unlikely, the transfer of NAS between potential harbor facilities and the DCPP area

would be a significant impact; however, with implementation of MM MBIO-10 (*Non-Native Aquatic Species Measures*), the impact would be less than significant (Class II). MM MBIO-10 requires PG&E to verify that all Project vessels originate from a local harbor or port, or have underwater surfaces cleaned before entering Southern or Central California coastal areas prior to transiting to the DCPP area or disposal locations, as well as comply with applicable CSLC regulations or standards including Ballast Water Management Regulations, Biofouling Management Requirements, and/or Ballast Water Discharge Performance Standards.

The Intake Structure Removal and Restoration Activities increase the potential to disturb the ocean bottom and the spread or infestation of *Caulerpa*, a group of green algae that are not native to California. In order to detect existing infestations, as well as avoid the spread of these invasive species within other systems, the *Caulerpa* Control Protocol includes provisions for California nearshore coastal and enclosed bays, estuaries, and harbors from Morro Bay to the US/Mexican border that outlines the certification, survey, and reporting guidelines required when surveying for all *Caulerpa* species (NMFS, 2021). If *Caulerpa* were present within the Project areas, impacts would be considered significant; however, with implementation of MM MBIO-11 (*Pre-Construction* Caulerpa *Survey*) impacts would be reduced to less than significant (Class II). MM MBIO-11 (*Pre-Construction* Caulerpa *Survey*) requires PG&E to conduct a pre-construction survey for *Caulerpa* in accordance with the *Caulerpa* Control Protocols (NMFS, 2021) prior to initiation of any authorized bottom disturbing activity, and to submit findings to the NOAA Fisheries and CDFW within 15 calendar days of completion of survey.

With implementation of the recommended mitigation measures, impacts from invasive non-native marine species under Alternative 8 would be less than significant (Class II).

Railyards

Use of the railyards would continue under Alternative 8. The railyards are not located in or near a marine area. Therefore, no impact would occur.

Phase 2

Breakwater Removal and Restoration. Similar to the Intake Structure Removal and Restoration Activities, the Breakwater Removal and Restoration (marine-based approach) activities increase the potential to disturb the ocean bottom and the spread or infestation of *Caulerpa*. To detect existing infestations and avoid the spread of these invasive species within other systems, the *Caulerpa* Control Protocol includes provisions for California nearshore coastal and enclosed bays, estuaries, and harbors from Morro Bay to the US/Mexican border that outlines the certification, survey, and reporting guidelines required when surveying for all *Caulerpa* species (NMFS, 2021). With implementation of MM MBIO-11 (*Pre-Construction* Caulerpa *Survey*) impacts would be reduced to less than significant (Class II).

Mitigation Measures for Impact MBIO-5. See Section 4.4 for full text of measures.

MBIO-10 Non-Native Aquatic Species Measures

MBIO-11 Pre-Construction *Caulerpa* Survey

Cumulative Impacts

Similar to the Proposed Project, if DCPP decommissioning activities overlapped with installation of the wind or energy farms there could potentially be greater vessel traffic and construction in offshore and nearshore waters that may lead to an increased likelihood of collisions with other vessels or equipment, marine mammals and sea turtles, oil or fuel spills, as well as increased underwater noise associated with increased vessel traffic. However, even with a slight increase in activities, given the relatively large area (i.e., nearshore and offshore waters from Southern California to Oregon) and infrequent number of Project-related vessel operations over an extended, multi-year period, even if barge trips were to occur at the same time as the potential wind or wave energy projects, the Project's potential contribution to cumulative impacts on marine biological resources would not be cumulatively considerable.

Geology, Soils, Paleontological Resources, and Coastal Processes

Impact GEO-5: Expose structures, workers, and the public to damage or injury due to coastal hazards, including but not limited to flooding, wave runup, tsunamis, and bluff erosion and instability (Class I: Significant and Unavoidable).

Phase 1

Decommissioning of the Intake Structure would require breaking concrete with a large hoe ram capable of generating vibration. Geotechnical testing of the alignment for the new Auxiliary Seawater Bypass pipeline encountered the backfill materials placed as part of the original construction of the containment building. The fill generally consists of stiff clay and dense to very dense sand and gravel. However, two of the eight borings encountered medium dense sand below mean sea level (Harding Lawson Associates, 1996). The saturated sand measures about 5 feet thick in a backfill area of approximately 10 to 20 feet wide and 100 feet long (Harding Lawson Associates, 1996). Geotechnical analysis estimates there is a high probability of liquefaction during a large earthquake (M7 ½), and marginally liquefiable/non-liquefiable during a moderate earthquake (M6) (Harding Lawson Associates, 1996). The medium dense sand is constrained on all sides. Construction-related vibrations are not anticipated to achieve forces comparable to a large earthquake. No liquefaction related deformation of the existing sand backfill is anticipated during decommissioning Activities.

Per the CCC CDP A-3-SLO-04-035 for the existing ISFSI, annual surveys of the shoreline nearest the ISFSI transport road and Soil Disposal Site #2 are to be conducted through the life of the ISFSI by a licensed Surveyor or Civil Engineer (CCC, 2004). A site stability evaluation report must be prepared and submitted by a California Certified Engineering Geologist based upon an on-site evaluation that indicates that the bluff setback is adequate to allow for bluff erosion over the 75-year period (CCC, 2004). For the case where the Intake Structure is backfilled, MM ALT GEO-6 is recommended to additionally monitor the area of the Intake Structure to ensure stability and structural integrity of the backfill to withstand natural bluff erosion and wave action. With implementation of MM ALT GEO-6 impacts from this alternative would be less than significant (Class II).

However, for the case where the Intake Structure area is not backfilled, this would leave very steep side slopes and potentially be mantled with loose, disturbed rock of the Obispo Formation, remnant backfill soil, and Terrace Deposits. These disturbed materials would be subject to erosion and accelerated bluff retreat. Implementation of MM ALT GEO-7 (*Long-Term Slope Stability and Erosion Control Plan)* may reduce these impacts but may not reduce erosion to acceptable levels and protective of sedimentation in the coastal zone. Slope failures and prolonged erosion may also require maintenance and repair of erosion control measures at the top of the new bluffs. As such, impacts would remain significant and unavoidable (Class I).

As discussed in Section 4.8.1.3, *Environmental Setting – Coastal Processes*, the maximum estimated wave height outside of the DCPP Breakwaters is approximately 44.6 feet, and the maximum wave crest elevation inside the Breakwaters is approximately 12.8 feet North American Vertical Datum of 1988 (NAVD88) (PG&E, 2015), including the effects of storm surges. The local threat of tsunami-related damage is primarily confined to areas less than 50 feet above mean sea level (San Luis Obispo, 2016). Therefore, the local threat of coastal hazards at the DCPP site is primarily confined to low-lying coastal areas less than 50 feet above mean sea level. The DCPP upland areas above the coastal cliffs are approximately 85 feet NAVD88 and not at risk from coastal flooding wave runup or tsunamis.

The Discharge Structure is at the base of the cliffs; the Intake Structure and Marina are situated between approximately 20 and 30 feet NAVD88, and the Breakwaters have a maximum crest elevation of approximately 20 feet NAVD88. Decommissioning activities (i.e., decontamination, dismantlement) at these various coastal structures have the potential to put more workers within the coastal zone compared to the Proposed Project, where they could be exposed to coastal hazards, including flooding, wave runup, or tsunamis. Removal of the Discharge Structure and associated water tunnels would be completed as described for the Proposed Project, including use of a cofferdam designed to withstand overtopping from a 50-year storm event and sealing of the water tunnels with a concrete bulkhead. The Intake Structure would be isolated from the ocean using a cofferdam during demolition which would protect workers and the structure from coastal processes. The cofferdam would be installed around the Intake Structure similar to the Discharge Structure cofferdam as described in the Proposed Project. In addition, for added safety protection from large swells for the construction crews, equipment, and materials, additional tribars may be temporarily stacked along the West Breakwater (see Figure 5-12). Unlike the Proposed Project, after the Discharge Structure has been demolished, backfilling with quarry rock rip-rap and topsoil would not occur. Not backfilling would leave the cliff face exposed to bluff erosion and instability due to flooding and wave runup after demolition and may result in a Class I impact. As described above, if the Intake Structure area is not backfilled, the cliff in the area of the Intake Structure would also be left with a void made up of steep side slopes and loose, disturbed rock remnant backfill soil, and Terrace Deposits. These disturbed materials would be subject to waves and coastal processes, which would accelerate erosion within the coastal zone. Erosion at the base could lead to cliff instability and accelerate slide and land loss. Implementation of MM ALT GEO-7 (*Long-Term Slope Stability and Erosion Control Plan)* may reduce these impacts but may not reduce erosion to acceptable levels and protective of sedimentation in the coastal zone. Slope failures and prolonged erosion may also require maintenance and repair of erosion control measures at the top of the new bluffs. As such, impacts would remain significant and unavoidable (Class I).

Compared to the Proposed Project, demolition and restoration of the Intake Structure area would increase the risk of exposure to coastal hazards for structures and workers, as more workers would be within the coastal zone where they could be exposed to coastal hazards, particularly during construction and removal of the cofferdam. Once in place, the cofferdam would offer protection to workers from flooding and waves. Additionally, the DCPP facility has safety protocols in place based on NRC safety requirements that would continue to be followed throughout decommissioning activities, minimizing accidents from occurring. The probability of tsunamis is low; the National Oceanic and Atmospheric Administration also maintains an active tsunami monitoring system that provides early warning to allow workers time to vacate low-lying areas for higher ground. Therefore, similar to the Proposed Project, impacts from tsunamis would be less than significant (Class III).

The DCPP site would not be open to the public during decommissioning and would not expose the public to damage or injury due to coastal hazards, and there would be no impact. Additionally, unlike the Proposed Project, the Marina facilities would be removed and would not be improved for future use; therefore, the public would not be exposed to coastal hazards once decommissioning is complete, and there would be no operational impacts. While the Breakwater would no longer provide protection to the coastline, future potential passive use would likely lead to less access to the immediate coastal area than if the Marina were developed. Therefore, there would be less risk to the public following removal of the structures along the coastline compared to the Proposed Project.

Railyards

There would be no change to the uplands and railyards under the CSLC Full Removal Alternative, and use of the railyards would continue the same as the Proposed Project. There would be no impact to structures, workers, and the public due to coastal hazards.

Phase 2

Demolishing the Breakwaters would not be done within a cofferdam and would expose workers to coastal hazards, especially wave runup. During demolition, the Breakwater structures would also be more susceptible to failure in the event of a coastal storm, as dismantlement would remove the protective design of stone armoring and leave areas open to venting. Failure of the Breakwater structure would also put workers at risk, especially if dismantlement is done primarily from the water. Such risks would be greater than the Proposed Project, but adherence to standard construction safety protocols including worker training and safety checks would ensure impacts are less than significant (Class III).

The DCPP site would not be open to the public during decommissioning and would not expose the public to damage or injury due to coastal hazards, and there would be no impact. Additionally, unlike the Proposed Project, the Marina facilities would be removed and would not be improved for future use; therefore, the public would not be exposed to coastal hazards once decommissioning is complete, and there would be no impact. Therefore, there would be less risk to the public following construction compared to the Proposed Project.

Mitigation Measures for Impact GEO-5.

ALT GEO-6 Intake Structure Backfill and Natural Bluff Site Inspection. The Applicant or its designee shall complete a site inspection one year after placement of Intake Structure backfill. The inspection shall be completed by a California Certified Engineering Geologist and include the entire area of Intake Structure backfill and the adjacent natural bluffs. The inspection shall note settlement, tension cracks at top of bluff, loss of material, and change of slope, if any. The Applicant or its designee shall submit a report of findings to the County for review within 45 days following completion of each annual inspection, documenting the overall performance of the backfill and natural bluffs and shall provide recommendations for repair or replenishment of the backfill, as necessary. Annual inspections shall continue for a period of five years. The fifth annual report shall present conclusions and recommendations for additional monitoring if necessary. If repairs are recommended by the Applicant's certified engineering geologist, the County Geologist shall review the scope of repairs and approve within 30 days.

ALT GEO-7 Long-Term Slope Stability and Erosion Control Plan. Ninety (90) days prior to issuance of building or grading permits, the Applicant or its designee shall prepare and receive approval for a Long-Term Slope Stability and Erosion Control Plan to address removal of loose earth materials, slope stability, bluff retreat, and drainage control for the Discharge Structure and Intake Structure. To reduce shoreline hardening, the Plan shall not include new slope protection measures such as rip rap and shotcrete. The Plan shall determine stable slope inclinations for the bedrock material and Terrace Deposits as well as develop grading and slope contouring plans and drainage control to reduce water and sediment flow from reaching the slopes in the vicinity of the Discharge Structure removal area (without backfill) and Intake Structure removal area (without backfill). The Plan shall also consider wave action and future sea level rise affecting the base of the sea cliff. The Plan shall include annual inspections of the slopes in the removal areas and development of horizontal setbacks from the top of the new bluff slopes to limit future structures or use of the land near the removal areas. The Plan shall be submitted to the County Department of Planning and Building for review and approval. The Plan shall be prepared and signed by a California licensed geotechnical engineer and certified engineering geologist. Within 45 days following completion of each annual inspection, the Applicant or its designee shall submit a report of findings documenting the overall performance of the bluffs and recontoured slopes and shall provide recommendations for repair of drainage control devices or slopes, as necessary. The report shall be prepared by a certified engineering geologist and shall be submitted to the County for review. Annual inspections shall continue for a period of five years. The fifth annual report shall present conclusions and recommendations for additional monitoring, if necessary.

Impacts of Mitigation. Implementation of MM ALT GEO-6 (*Intake Structure Backfill and Natural Bluff Site Inspection*) may lead to additional impacts associated with future repairs of the Intake Structure backfill, if such repairs are identified. Such repairs are considered speculative at this time, and if they occur would happen in a piecemeal fashion. It is anticipated that any such repairs

would occur much further in the future at a time when construction equipment may be cleaner, and regulations may be stricter. Additionally, such repairs may be exempt from CEQA, such as repairs to prevent an emergency (State CEQA Guidelines §15269(c)), restoration of deteriorated or damaged structures (State CEQA Guidelines §15301(d)), or filling of earth into previously excavated land with material compatible with the natural features of the site (State CEQA Guidelines §15304(c)). Impacts associated with such repairs may include additional air quality and greenhouse gas emissions associated with earth movement, use of construction equipment and trucks; biological resource impacts in areas that may have otherwise been restored under the Proposed Project; and potential for soil erosion and associated water quality impacts. These impacts would be assessed on a case-by-case basis and the appropriate CEQA documentation completed, as needed.

Implementation of MM ALT GEO-7 (*Long-Term Slope Stability and Erosion Control Plan)* may not reduce erosion to acceptable levels and lead to additional sea cliff erosion and bluff retreat. The very steep side slopes surrounding the excavation necessary for full removal of the Discharge Structure and Intake Structure (if not backfilled) would be open to wave action at the base and surface erosion above. The graded slopes, without engineered slope protection measures, cut into the 60-foot-high sea cliff formed in the Obispo Formation and 25-foot-high bluff formed in the Terrace Deposits may not reduce erosion to acceptable levels and protective of sedimentation in the coastal zone. Slope failures and prolonged erosion may require maintenance and repair of erosion control measures at the top of the new bluffs. Such repairs are considered speculative at this time, and if they occur would happen in a piecemeal fashion. It is anticipated that any such repairs would occur much further in the future at a time when construction equipment may be cleaner, and regulations may be stricter. Impacts associated with such repairs may include additional air quality and greenhouse gas emissions associated with earth movement, use of construction equipment and trucks; biological resource impacts in areas that may have otherwise been restored under the Proposed Project; and potential for soil erosion and associated water quality impacts. These impacts would be assessed on a case-by-case basis and the appropriate CEQA documentation completed, as needed.

Residual Impacts. For the case where the Intake Structure area is not backfilled, this would leave very steep side slopes, where disturbed materials would be subject to erosion and accelerated bluff retreat and would be subject to waves and coastal processes, which further accelerate erosion within the coastal zone. Erosion at the base could lead to cliff instability and accelerate slide and land loss. Implementation of MM ALT GEO-7 (*Long-Term Slope Stability and Erosion Control Plan)* may reduce these impacts but may not reduce erosion to acceptable levels and protective of sedimentation in the coastal zone. As such, impacts would be significant and unavoidable (Class I).

Impact GEO-6: Impair nearshore sediment properties, characteristics, or processes during and after decontamination and dismantlement activities (Class II: Less than Significant with Mitigation).

Because the DCPP site includes built structures in the coastal zone (see Figure 1-2), decommissioning activities have the potential to impact nearshore sediment properties, characteristics, or processes. Under Alternative 8, the Discharge Structure, Intake Structure, Marina, and Break-

waters, which are all located within or directly adjacent to the shoreline and coastal waters, would be dismantled and removed. Construction in these areas may increase effects on nearshore coastal processes.

Phase 1

As described for the Proposed Project, the Discharge Structure and associated tunnels, which extend 30 feet into the bluff, would be demolished and fully removed creating a void in the coastal bluff. Prior to construction, a cofferdam would be constructed around the Discharge Structure and remain in place for the entirety of the demolition, which would prevent sediment from entering the littoral system during construction. As discussed in Section 2.2.4, *Ongoing Safety and Environmental Activities*, PG&E developed a Turbidity Monitoring Plan containing recommendations to avoid and minimize impacts to water quality associated with the demolition of the Discharge Structure. The plan describes protocols and methods to be implemented to minimize impacts to water quality, specifically turbidity, in accordance with standards in the California Ocean Plan. This plan will also help minimize the effects of erosion during the removal of the Discharge Structure. Impacts during construction would be reduced to less than significant with implementation of MM MBIO-3 (*Water Quality Monitoring Plan*), which requires PG&E to update the Turbidity Monitoring Plan to include permit requirements for monitoring for turbidity and other water quality parameters such as dissolved oxygen to ensure that construction activities are not contributing to conditions that could degrade sensitive marine habitats, and MM MBIO-4 (*Cofferdam Installation and Dewatering Plan*), which requires PG&E to develop a plan to avoid impacts to marine biological resources, receiving waters, sensitive habitats, and potentially protected species from all aspects associated with cofferdam construction and removal (Class II).

Unlike the Proposed Project, the void in the cliff left by removal of the Discharge Structure would not be backfilled, leaving a large gap in the cliff face. While coastal cliffs erode naturally, such a void within a cliff face without any naturally protective rock would lead to greater rates of erosion which would supply a large amount of sediment to nearshore area. MM GEO-7 *(Long-Term Slope Stability and Erosion Control Plan)* includes a Long-Term Slope Stability and Erosion Control Plan to address removal of loose earth materials, slope stability, bluff retreat, and drainage control for the Discharge Structure and Intake Structure. Overall, the coastline in the area outside of the Project area is undeveloped and the extra sediment would be distributed over a large area. Therefore, it is unlikely to impair nearshore sediment properties, characteristics, or processes (Class II).

The cofferdam used to remove the Intake Structure would remain in place for the entirety of the demolition, which would prevent sediment from entering the littoral system during construction. The void left by demolition of the Intake Structure may or may not be backfilled. If backfilled, the shoreline would be continuous and would revert back to natural conditions. If left unfilled, similar to the Discharge Structure, the void may lead to greater rates of erosion which may supply greater amounts of sediment to nearshore area. ALT MM GEO-6 (*Intake Structure Backfill and Natural Bluff Site Inspection*) includes monitoring the area of the Intake Structure to ensure stability and structural integrity to withstand natural bluff erosion and wave action, and ALT GEO-7 *(Long-Term Slope Stability and Erosion Control Plan*) Overall, the coastline in the area

outside of the Project area is undeveloped and the extra sediment would be distributed over a large area. Therefore, it is unlikely to impair nearshore sediment properties, characteristics, or processes (Class II).

As with the Proposed Project, local ocean water circulation at the Intake and Discharge Structures would be altered once these structures are no longer operating and has the potential to change very localized sediment movement. However, natural sediment flow within the Intake Cove is already potentially impeded by the Breakwaters through Phase 1 (see Phase 2 discussion below for with Breakwater removal impacts). Within the Discharge Cove, with cessation of Discharge Structure flows, circulation would revert to natural patterns and sediment flow would no longer be impeded in this area. The impact would be less than significant (Class III).

Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, there would be no impact on coastal processes.

Phase 2

Removing the Breakwater and Marina would not occur within a cofferdam, and sediment could enter the littoral system. However, the coastline in the area outside of the Project area is undeveloped, and the extra sediment would be distributed over a large area. Therefore, it is unlikely to impair nearshore sediment properties, characteristics, or processes (Class II).

After removing the Breakwaters, circulation in the area of the former Intake Cove would revert to the natural patterns prior to the construction of the DCPP facility, and sediment flow would no longer be impeded. The impact would be less than significant (Class III).

Mitigation Measures for Impact GEO-6.

MBIO-3 **Water Quality Monitoring Plan.** See Section 4.4.

MBIO-4 **Cofferdam Installation and Dewatering Plan.** See Section 4.4.

GEO-5 **Discharge Structure Backfill and Natural Bluff Site Inspection.** See Section 4.8.

ALT GEO-6 **Intake Structure Backfill and Natural Bluff Site Inspection**

ALT GEO-7 **Long-Term Slope Stability and Erosion Control Plan**

Impact GEO-7: Impair coastal wave, current, or circulation patterns during and after decontamination and dismantlement activities (Class III: Less than Significant).

Under Alternative 8, the Discharge Structure, Intake Structure, Marina, and Breakwaters, which are all located within, or directly adjacent to, the shoreline and coastal waters, would be dismantled and removed. Construction in these areas may affect or impair current and circulation patterns with use of cofferdams.

Phase 1

The Discharge and Intake Structures would be fully removed, which if not backfilled would create large gaps in the cliff face. A maximum sea cliff retreat over the next 75-year period is anticipated to be 1.0 to 4.5 meters for Diablo Cove and 0.5 to 2.5 meters for Patton Cove (cove southeast of the Intake Cove) (see Section 4.8.1.3, under *Littoral Processes*). These remaining voids could possibly change local wave and circulation patterns by creating an eddy effect. However, the effect would be very localized, and the cliff would eventually erode over the 75-year period to a smoother face, and the eddy effect would be less pronounced over time resulting in a less-than-significant impact (Class III).

As with the Proposed Project, local ocean water circulation at the Intake and Discharge Structures would be altered once they are no longer operating. However, natural circulation within the Intake Cove is already to some extent impeded by the Breakwaters, which would remain in place through Phase 1 under Alternative 8. Within the Discharge Cove, with cessation of Discharge Structure flows, circulation would revert to natural patterns. This impact would be less than significant (Class III).

Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, there would be no impact on coastal wave, current, or circulation patterns.

Phase 2

After removing the Breakwaters, circulation and current patterns would revert to the natural patterns prior to construction of the DCPP facility. The impact would be less than significant (Class III).

Mitigation Measures for Impact GEO-7. No mitigation measures are required.

Impact GEO-8: Increase the effects of coastal flooding or erosion associated with sea level rise during and after decontamination and dismantlement activities (Class II: Less than Significant with Mitigation).

Phase 1

Under Alternative 8, the Discharge Structure and Intake Structure, which are located within or directly adjacent to the shoreline and coastal waters, would be removed in Phase 1. As such, sea level rise (SLR) would not affect these structures. SLR has the potential to exacerbate erosion in the void areas created from removal of the Discharge Structure (no backfill) and Intake Structures (if not backfilled) and accelerate retreat. With implementation of MM GEO-5 (*Discharge Structure Backfill and Natural Bluff Site Inspection*), MM ALT GEO-6 (*Intake Structure Backfill and Natural Bluff Site Inspection*), and ALT GEO-7 (*Long-Term Slope Stability and Erosion Control Plan)*. However, the effects of additional wave action and sea level rise would exacerbate erosion; while MM GEO-5, MM ALT GEO-6 and MM ALT GEO-7 would lessen the effect, they may not reduce erosion to acceptable levels and be protective of coastal flooding and erosion in the coastal zone. Slope failures and prolonged erosion may require maintenance and repair of erosion control measures

at the top of the new bluffs. Such repairs are considered speculative at this time, and if they occur would happen in a piecemeal fashion. It is anticipated that any such repairs would occur much further in the future at a time when construction equipment may be cleaner, and regulations may be stricter. Impacts associated with such repairs may include additional air quality and greenhouse gas emissions associated with earth movement, use of construction equipment and trucks; impacts to biological resources in areas that may have otherwise been restored under the Proposed Project; and potential for soil erosion and associated water quality impacts. These impacts would be assessed on a case-by-case basis and the appropriate CEQA documentation completed, as needed the effects of SLR-related erosion would be less than significant (Class II).

As most of the DCPP site and associated structures are set back from the cliffs beyond the risk of coastal processes and would be demolished as part of the Proposed Project, SLR-exacerbated erosion of the cliffs is not expected to affect the uplands structures.

Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, there would be no impact related to SLR.

Phase 2

Under Alternative 8, the Breakwaters and Marina, which are located within or directly adjacent to the shoreline and coastal waters, would be removed in Phase 2. As such, SLR would not affect these structures.

Mitigation Measures for Impact GEO-7.

GEO-5 **Discharge Structure Backfill and Natural Bluff Site Inspection.** See Section 4.8.

ALT GEO-6 **Intake Structure Backfill and Natural Bluff Site Inspection**

ALT GEO-7 **Long-Term Slope Stability and Erosion Control Plan**

Cumulative Impacts

Cumulative Project #25 (Port San Luis Breakwater Repair) is the only project that could pose a cumulative impact in combination with the Breakwater dismantlement component of Alternative 8. It is not in close proximity to the DCPP site, but because it involves breakwater repair in the same coastal area it could result in cumulative impacts to coastal processes. However, because Project #25 is expected to be completed in 2023 and the Discharge Structure, Intake Structure, Breakwater, and Marina removal and restoration elements of Alternative 8 are expected to begin around 2030, no overlap would be anticipated. Therefore, Alternative 8 would not contribute to cumulative impacts to coastal processes.

Greenhouse Gas Emissions

Impact GHG-1: Generate GHG emissions that may have a significant impact on the environment (Class II: Less than Significant with Mitigation).

Phase 1

The CSLC Full Removal Alternative would generate additional GHG emissions during decommissioning and dismantlement activities including from off-road equipment, on-road vehicles, rail locomotives, and marine vessels used in the process of dismantling, decontaminating, and removing the Intake Structure and Breakwaters. The total GHG emissions over the lifetime of the Proposed Project, and how they compare to the estimated GHG emissions for this alternative are shown in Table 5-13.

Table 5-13. Comparison of Proposed Project and Alternative 8 GHG Emissions

Proposed Project	**GHG Emissions**
Total Phase 1 Emissions (Table 4.9-2)	**91,744 $MTCO_2e$**
Phase 1 Maximum Yearly Emissions Rate (Table 4.9-2)	10,402 $MTCO_2e$ per year
Total Phase 2 Emissions (Table 4.9-3)	**7,698 $MTCO_2e$**
Phase 2 Operational Emissions (Table 4.9-3)	316 $MTCO_2e$ per year
Phase 2 Maximum Yearly Emissions (Table 4.9-3)	1,586 $MTCO_2e$ per year
Additional Phase 1 Alternative 8 Emissions	5,355 $MTCO_2e$
Additional Phase 1 Alternative 8 Yearly Emissions	2,142 $MTCO_2e$ per year
Additional Phase 2 Alternative 8 Emissions	14,181 $MTCO_2e$
Additional Phase 2 Alternative 7 Yearly Emissions	4,052 $MTCO_2e$ per year
Alternative 8 Maximum Total Emissions	**117,156 $MTCO_2e$**
Alternative 8 Maximum Yearly Emissions	**15,757 $MTCO_2e$ per year**

Source: EIR Appendix D, Alternative 8 AQ/GHG Summary.
Acronyms: $MTCO_2e$ = metric tons carbon dioxide equivalent.

Phase 1 and Phase 2 activities under Alternative 8 would result in GHG emissions rates ranging up to 15,757 $MTCO_2e$ per year. This level of GHG emissions would result in an increase relative to baseline conditions and would require mitigation consistent with SLOCAPCD recommendations.

The impact to global climate change is, by definition, cumulative. Because an overall net increase in GHG emissions would occur, Alternative 8, like the Proposed Project, would generate GHG emissions at a level that would have a potentially significant impact on the environment, before considering mitigation. To achieve "no net increase" of GHG emissions and fully (100 percent) offset the GHG emissions at a 1-to-1 (1:1) ratio, ALT MM GHG-2 (*Additional Reduction in GHG Emissions or Surrender Offset Credits*) is recommended, which requires PG&E to reduce or offset Alternative 8-related GHG emissions to avoid a significant impact on the environment (Class II).

Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, emissions from the railyards are included in the total GHG emissions quantified for Phases 1 and 2. To

achieve "no net increase" of GHG emissions and fully (100 percent) offset the GHG emissions at a 1-to-1 (1:1) ratio, ALT MM GHG-2 (*Additional Reduction in GHG Emissions or Surrender Offset Credits*) is recommended, which requires PG&E to reduce or offset Alternative 8-related GHG emissions. Therefore, impacts would remain less than significant with mitigation (Class II).

Phase 2

As discussed under Phase 1, Phase 2 activities combined with Phase 1 activities under Alternative 8 would result in GHG emissions rates that would exceed the SLOCAPCD annual significance threshold. Therefore, ALT MM GHG-2 (*Additional Reduction in GHG Emissions or Surrender Offset Credits*) is recommended to avoid a significant impact on the environment (Class II).

Mitigation Measures for Impact GHG-1.

ALT GHG-2 Additional Reduction in GHG Emissions or Surrender Offset Credits. The Applicant or its designee shall reduce or offset annual incremental greenhouse gas (GHG) emissions from Project-related sources, including those associated with removal of the Intake Structure and Breakwaters. These incremental emissions are estimated to be less than or equal to 15,757 $MTCO_2e$ per year.

The Applicant or its designee shall prepare and implement a GHG Reduction and Reporting Plan that describes how annual GHG emissions could be reduced with local projects and offsets. The Plan shall include provisions for and outline of an annual report to the County that summarizes the emission reduction measures implemented, quantifies the Project-related estimated GHGs emissions for the year, and demonstrates the quantity of metric tons of local GHG reductions/carbon sequestrations secured and voluntary-market registry offset credits surrendered. Each annual report shall reconcile the actual emissions of the previous year with the mitigation quantity, in terms of $MTCO_2e$. The standard of performance for this mitigation is to reduce or offset GHG emissions at a quantity that equals or exceeds the additional emissions of Phase 1 and Phase 2 of the Project during any year. The Applicant or its designee may demonstrate that lower levels of GHG mitigation are needed during certain years of low activity.

Onsite GHG reductions and local GHG reduction/carbon sequestration projects should be exhausted to the extent feasible prior to surrendering credits from offsite projects. If local projects will provide offsite mitigation, first preference should be given to projects in San Luis Obispo and Santa Barbara Counties and second preference to projects in the other four counties of California's Central coast air basins (Ventura, Monterey, San Benito, and Santa Cruz counties). Implementing the required amount of any of the following types of emission reductions shall be an acceptable means of mitigation:

- GHG reductions or carbon sequestrations generated within San Luis Obispo and Santa Barbara Counties first and then in the other four Central Coast counties by implementing a GHG reduction project consistent with any methodology approved by either the San Luis Obispo County Board of Supervisors or the Air Pollution Control District (APCD) for the purpose of providing CEQA mitigation.

- GHG reductions from voluntary-market registry offset credits listed with and verified by: (1) one of the following CARB-approved Offset Project Registries: American Carbon Registry (ACR); Climate Action Reserve (CAR); or Verra, formerly Verified Carbon Standard. "Offset Project Registry" has the same definition as that set forth in Section 95802 of Title 17 of the California Code of Regulations (17 CCR 95802); (2) Climate Forward; or (3) GHG reduction/carbon sequestration supplies that are consistent with requirements specified in the State CEQA Guidelines and case law. Offset credits should be selected based on the preference hierarchy found in SLO County APCD's 2021 Interim GHG Guidance or the 2022 CARB Scoping Plan Update Appendix D Section 4.1.

Plan Requirements and Timing. The GHG reductions achieved, credits surrendered, or any GHG offset project sponsored by the Applicant or its designee, must be supported by a demonstration to the County that any local projects are acceptable to APCD and that any offsets are consistent with requirements specified in the State CEQA Guidelines and case law. The GHG Reduction and Reporting Plan shall be reviewed and approved by the County Department of Planning and Building, in consultation with the San Luis Obispo County Air Pollution Control District, prior to issuance of the Conditional Use Permit. The necessary annual quantity of local GHG reduction/carbon sequestration projects shall be committed to and any verified offset credits under this plan shall be surrendered prior to April 15 of each calendar year following the year of initiating construction.

Monitoring: The County Department of Planning and Building, in consultation with the APCD, will review and approve the GHG Reduction and Reporting Plan and any proposed GHG reduction credits prior to their use as mitigation. Subsequent annual reporting of GHG emissions and reduction or offset measures implemented will be reviewed and approved by the County Department of Planning and Building in consultation with the APCD.

Impact GHG-2: Conflict with GHG emissions reduction plans, policies, or regulations (Class III: Less than Significant).

Phase 1

This alternative, like the Proposed Project, would not be directly subject to any GHG emission reduction regulations. Decommissioning activities, transportation fuels, equipment, and vehicles used would be required to comply with applicable policies, regulations, and standards. The CSLC Full Removal Alternative would not conflict with any applicable plan, policy, or regulation related to reducing GHGs. Therefore, the potential to conflict with GHG emissions reduction plans, policies, or regulations would be less than significant (Class III).

Railyards

Like the Proposed Project, activities at the railyards would not be directly subject to any GHG emission reduction regulations. The use of the railyards would be required to comply with applicable policies, regulations, and standards. The impact would be less than significant (Class III).

Phase 2

As discussed under Phase 1, activities in Phase 2 would not be directly subject to any GHG emission reduction regulations. Phase 2 activities would continue to comply with applicable plans, policies, and regulations related to GHG reductions. The impact would be less than significant (Class III).

Mitigation Measures for Impact GHG-2. No mitigation measures are required.

Cumulative Impacts

No single project could, by itself, result in a substantial change in climate. Alternative 8 effects are globally cumulative, such that there is no separate cumulative impacts analysis for global climate change.

Hydrology and Water Quality

Impact HWQ-1: Violate any water quality standards or waste discharge requirements, create substantial additional sources of polluted runoff, or require significant additional treatment of dewatered structures, systems, and components (Class II: Less than Significant with Mitigation).

Phase 1

Under Alternative 8, construction activities would generally be the same as the Proposed Project, with the additional removal of the Intake Structure. Dismantling structures within the coastal zone would increase the likelihood of introducing pollutants in closer proximity to the marine environment which could impact local water quality. Like the Proposed Project, several plans and measures would be implemented as part of the alternative during construction to control sources of contaminants, limit erosion and dust, and prevent discharge of stormwater. At the time of application for construction permits, PG&E would be required to submit construction phasing plan(s), as applicable, for review and approval by County of San Luis Obispo Department of Planning & Building, in consultation with the Department of Public Works, to identify all plans required. Required plans include a site-specific SWPPP; Erosion and Sediment Control Plan; Spill Prevention, Control, and Countermeasure (SPCC) Plan; Grading Plan; and a Construction Drainage Plan (see MM HWQ-1, *Prepare and Implement Drainage Plans*). To ensure that these plans are implemented and adhered to throughout the duration of Alternative 8, MM EM-2 (*Project Plan Updating, Tracking, and Reporting*) is required. With implementation of the plans, CGP, and MM HWQ-1 and MM EM-2, construction activities during Phase 1 of Alternative 8 at the DCPP site would not directly violate any water quality standards or waste discharge requirements and impacts would be less than significant (Class II).

Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, there would be less-than-significant impacts related to violating water quality standards (Class III).

Phase 2

Under Alternative 8, construction activities would generally be the same as the Proposed Project, with the additional removal of the Breakwaters and Marina. Like the Proposed Project, Alternative 8 would not violate any water quality standards or waste discharge requirements or create substantial additional sources of polluted runoff during Phase 2 with implementation of the Erosion and Sediment Control Plan for the DCPP site, SPCC Plan, and site-specific SWPPP (see Table 2-2); as well as with implementation of requirements within the existing Stormwater Industrial General Permit (IGP), NPDES permits, and Nuclear Energy Institute Industry Ground Water Protection Initiative. As with the Proposed Project, MMs EM-2 (*Plan Tracking and Reporting*), HWQ-1 (*Prepare and Implement Drainage Plans*), and HWQ-2 (*Long-Term Erosion and Sediment Control Plan*) are recommended. Impacts would be less than significant with mitigation (Class II).

Mitigation Measures for Impact HWQ-1.

EM-2 Project Plan Updating, Tracking, and Reporting. See Section 3.

HWQ-1 Prepare and Implement Drainage Plans. See Section 4.11.

HWQ-2 Long-Term Erosion and Sediment Control Plan. See Section 4.11.

Impact HWQ-2: Degrade surface water quality as a result of chemical spills during decontamination and dismantlement activities or introduce contaminants to surface water as a result of groundwater dewatering during decontamination and dismantlement activities or at the off-site materials handling facilities (Class II: Less than Significant with Mitigation).

Phase 1

Decommissioning activities have the potential to degrade surface water quality through accidental spills, structure dismantlement, and through the dewatering process if not adequately planned for and controlled. Under Alternative 8, more heavy construction equipment, barges, tugboats, and ocean equipment would be used for decommissioning structures in the marine area of the DCPP site. Like the Proposed Project, this alternative would implement several plans and measures during construction to control sources of contaminants including the Oil Spill Response Plan (see Table 2-2), which would be updated per MM MBIO-8 (*Oil Spill Response Plan*); SPCC Plan (see Table 2-2); and CGP requirements and associated site-specific SWPPP (ACs WQ-1 and BIO-3), which are regulatory requirements. Additionally, with implementation of MM HWQ-1 (*Prepare and Implement Drainage Plans*), which requires PG&E to develop a Construction Drainage Plan to San Luis Obispo County standards and MM MBIO-8, the potential to degrade surface water quality during Phase 1 construction activities at the DCPP site would be less than significant (Class II).

Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, there would be less-than-significant impacts related to degradation of surface water quality (Class III).

Phase 2

Like the Proposed Project, for Alternative 8 compliance and implementation of the site-specific SWPPP, SPCC Plan, and updating the Oil Spill Response Plan (MM MBIO-8) would reduce the risk of a spill occurring and minimize impacts to less than significant (Class II).

Mitigation Measures for Impact HWQ-2.

MBIO-8 **Oil Spill Response Plan.** See Section 4.4.

HWQ-1 **Prepare and Implement Drainage Plans.** See Section 4.11.

Impact HWQ-3: Substantially degrade marine water quality, including increasing turbidity and debris in the marine environment during decontamination and dismantlement activities, or potentially exceed California Ocean Plan salinity requirements or reducing dissolved oxygen concentrations upon cessation of power generation activities (Class II: Less than Significant with Mitigation).

Phase 1

Alternative 8 may substantially degrade marine water quality from the discharge of debris, increased turbidity, and increased salinity. Phase 1 would generate construction debris through dismantlement and demolition of structures. Most Phase 1 construction would occur on land, and debris would be contained on site. However, Alternative 8 has additional marine demolition work, including removal of the Discharge Structure (without backfill) and Intake Structure (with or without backfill).

A cofferdam and dewatering system would be used for removal of the Discharge and Intake Structures to allow work to be conducted under dry conditions. Placement of the cofferdam around these structures would minimize the distribution of debris beyond the containment area; however, the actual placement of the cofferdam and removal when restoration activities are complete would result in the disturbance and resuspension of sediment adjacent to these structures leading to increased turbidity. In addition, because the Discharge Structure would not be backfilled, and in the case where the Intake Structure is not backfilled, the voids left in the cliff face would result in increased sedimentation from erosion.

As discussed for the Proposed Project, discharge from the temporary SWRO brine line into the Discharge Cove also has the potential to cause turbidity; however, it is expected to be substantially less than existing conditions where the Discharge Structure is operational. In addition, the temporary pipe would include diffusers to reduce velocity of the discharge and limit the potential for increased turbidity. To support the period of redirected flow, PG&E would obtain an amendment to the existing NPDES Permit No. CA0003751 or would obtain a new NPDES permit. Effluent limitations for turbidity are outlined in the California Ocean Plan.

A Turbidity Monitoring Plan has been developed for decommissioning activities associated with the demolition and removal of the Discharge Structure and restoration activities; however, it does not address the temporary brine line or the additional removals that would occur in the marine environment under Alternative 8. MM HWQ-4 (*Turbidity Monitoring Plan*) and ALT MM HWQ-5 (*Add Breakwaters and Intake Structure to the Turbidity Monitoring Plan*) are recom-

mended, which would require PG&E to update the Turbidity Monitoring Plan to include monitoring and additional BMPs not only for the temporary brine line, but also for the Discharge and Intake Structures, Breakwater, and Marina removal and restoration activities. MM MBIO-3 (*Water Quality Monitoring Plan*) also requires updates to the Turbidity Monitoring Plan to provide protection to receiving waters, adjacent sensitive habitats, and protected species primarily from turbidity during activities associated with any in-water construction activities. Implementation of the updated Turbidity Monitoring Plan would ensure that impacts would be less than significant (Class II).

Alternative 8 would not change salinity impacts related to brine and wastewater discharges occurring under reduced OTC conditions and eventual elimination of OTC (i.e., shutdown of the Discharge Structure), which as discussed for the Proposed Project is not expected to degrade marine water quality or result in an exceedance of the California Ocean Plan salinity requirements and impacts would be less than significant (Class III).

Railyards

Use of the railyards would continue under Alternative 8. As with the Proposed Project, there would be no impacts related to degradation of marine water quality.

Phase 2

Alternative 8 may substantially degrade marine water quality from the discharge of debris, increased turbidity, and increased salinity. Most of Phase 2 work would occur on land, and debris would be contained on site. However, Alternative 8 has additional marine demolition work, including removal of the Breakwaters and Marina. The Breakwater and Marina dismantlement would not happen within a cofferdam, and sediment could enter the littoral system. As discussed for Phase 1, MMs MBIO-3 (*Water Quality Monitoring Plan*), HWQ-4 (*Turbidity Monitoring Plan*), and ALT HWQ-5 (*Add Breakwaters and Intake Structure to the Turbidity Monitoring Plan*) would be implemented to ensure that impacts would be less than significant (Class II). In addition, the Discharge and Intake Structures would be fully removed, which as discussed in Impact GEO-6, if not backfilled would create large gaps in the cliff face that would likely result in additional erosion due to wave action and eddies. Erosion would add sediment to the marine environment. However, the coastline in the area outside of the Project area is undeveloped, and the extra sediment would be distributed over a large area. Impacts would be less than significant (Class II).

Mitigation Measures for Impact HWQ-3.

MBIO-3 **Water Quality Monitoring Plan.** See Section 4.4.

HWQ-4 **Turbidity Monitoring Plan.** See Section 4.11**.**

ALT HWQ-5 **Add Breakwaters and Intake Structure to the Turbidity Monitoring Plan.** In combination with MM MBIO-3, at least 30 days prior to installation of the cofferdam around the Intake Structure or demolition of the Breakwaters and Marina, the Applicant or its designee shall update the existing Turbidity Monitoring Plan. The updated plan shall address elevated turbidity associated with removal and restoration of the Intake Structure, Breakwaters, and Marina. The plan shall describe

receiving water turbidity monitoring procedures and identify BMPs to reduce turbidity to ensure compliance with any Clean Water Act permit requirements and standards set in the State Water Resources Control Board's *California Ocean Plan – Water Quality Control Plan for Ocean Water of California.* BMPs shall include, but not be limited to the following:

- Sediment removal prior to placement of cofferdam shall utilize a water lift to remove any sand or sediment and reduce air entrainment and sediment dispersion.

  The Applicant or its designee shall submit a copy of the revised Turbidity Monitoring Plan to the San Luis Obispo County Planning and Building for review and approval at least one month before commencing in-water work to document compliance with this measure.

Impact HWQ-4: Adversely affect the availability of groundwater due to increased water use or excavation dewatering (Class III: Less than Significant).

Phase 1

Freshwater is needed from the start of decommissioning to the end of site restoration for domestic water, makeup water, dust suppression, and soil compaction. However, no additional water would be needed for work in the coastal zone under Alternative 8 compared to the Proposed Project.

The DCPP site is not located in an area with a designated groundwater basin (California Department of Water Resources [CDWR], 2021). Furthermore, according to the US Geological Survey, no significant aquifers exist in the area (US Geological Survey [USGS], 1995). At the DCPP site, impacts would be less than significant during decommissioning activities, as the amount of dewatering would be limited, and the local groundwater is not part of any groundwater basin. Based on pumping test results at Well #2, decommissioning activities at the DCPP site would not be expected to adversely affect the availability or usability of groundwater as a water resource. The impact would be less than significant (Class III).

Railyards

Use of the railyards would continue under Alternative 8, and impacts would be identical to the Proposed Project. No impact would occur at the PBR site, and impacts would be less than significant at the SMVR-SB site (Class III).

Phase 2

The use of groundwater for final site restoration and landscaping activities would be essentially the same as the Proposed Project. Impacts would be less than significant (Class III).

Mitigation Measures for Impact HWQ-4. No mitigation measures are required.

Impact HWQ-5: Increase soil erosion and sedimentation due to removing structures and/or impervious surface areas, altering drainage patterns, or exceeding the capacity of stormwater conveyance structures (Class II: Less than Significant with Mitigation).

Phase 1

To reduce soil erosion and sedimentation, like the Proposed Project, Alternative 8 would be required to comply with the requirements of the CGP and associated site-specific SWPPP (ACs WQ-1 and BIO-3), which are required by regulation. The SWPPP would be developed prior to the start of decommissioning activities and contain BMPs designed to minimize erosion during construction, control sediment and pollutants from construction materials, and stabilize construction areas. The SWPPP would define requirements for monitoring and inspections. The Preliminary Erosion and Sediment Control Plan (see Table 2-2) also identifies BMPs to control erosion of soil and sedimentation from the site during grading (PG&E, 2020a). Additionally, MM EM-2 (*Project Plan Updating, Tracking, and Reporting*) recommended. Compliance with MM EM-2, which includes updating and tracking the Erosion and Sediment Control Plan, SWPPP, associated BMPs, would reduce the risk of erosion and sedimentation to a less-than-significant level (Class II).

The DCPP site has a robust existing stormwater conveyance system. During Phase 1 decommissioning activities, the existing stormwater conveyance structures would be utilized to remove stormwater from work areas. Interim culverts and/or swales may be required during phased construction activities to convey stormwater in a non-erosive manner to the ultimate point of discharge. The DCPP currently operates under an active IGP, Waste Discharge Identification Number (WDID) 3 40I018248, and ultimately would operate under the CGP during decommissioning activities. The CGP requires development of a SWPPP and implementation of BMPs to direct and control stormwater. Compliance with the SWPPP and use of appropriate BMPs would help control runoff from work areas, including new areas to be removed under Alternative 8, and reduce the risk of exceeding capacity of stormwater conveyance structures to less than significant (Class III).

Unlike the Proposed Project, the void in the cliff left by removal of the Discharge Structure and Intake Structure (if not backfilled) and would leave large gaps in the cliff face. While coastal cliffs erode naturally, such a void within a cliff face without any protective rock would lead to greater rates of erosion which would supply a large amount of sediment to nearshore area. With implementation of MM GEO-5 (*Discharge Structure Backfill and Natural Bluff Site Inspection*), MM ALT GEO-6 (*Intake Structure Backfill and Natural Bluff Site Inspection*), and MM ALT GEO-7 (Long-Term Slope Stability and Erosion Control Plan), which would include monitoring the area of the Discharge and Intake Structures to ensure stability and structural integrity to withstand natural bluff erosion and wave action. While MM GEO-5, MM ALT GEO-6 and MM ALT GEO-7 would lessen the effect, they may not reduce erosion to acceptable levels and be protective of erosion in the coastal zone. Slope failures and prolonged erosion may require maintenance and repair of erosion control measures at the top of the new bluffs. Such repairs are considered speculative at this time, and if they occur would happen in a piecemeal fashion. It is anticipated that any such repairs would occur much further in the future at a time when construction equipment may be cleaner, and regulations may be stricter. Impacts associated with such repairs may include additional air quality and greenhouse gas emissions associated with earth move-

ment, use of construction equipment and trucks; impacts to biological resources in areas that may have otherwise been restored under the Proposed Project; and potential for soil erosion and associated water quality impacts. These impacts would be assessed on a case-by-case basis and the appropriate CEQA documentation completed, as needed the effects of SLR-related erosion would be less than significant (Class II).

Railyards

Use of the railyards would continue under Alternative 8, and impacts would remain less than significant (Class III).

Phase 2

Soil remediation, demolition of remaining structures, and final site restoration would occur as described for the Proposed Project, with the additional removal of the Breakwaters and Marina. Impacts would be reduced to a less-than-significant level by complying with the CGP, SWPPP, and with implementation of MMs EM-2 (*Project Plan Updating, Tracking, and Reporting*), GEO-5 (*Discharge Structure Backfill and Natural Bluff Site Inspection*), HWQ-1 (*Prepare and Implement Drainage Plans*), HWQ-2 (*Long-Term Erosion and Sediment Control Plan*), and (Class II).

Mitigation Measures for Impact HWQ-5.

EM-2 **Project Plan Updating, Tracking, and Reporting.** See Section 3.

GEO-5 **Discharge Structure Backfill and Natural Bluff Site Inspection.** See Section 4.8.

ALT GEO-6 **Intake Structure Backfill and Natural Bluff Site Inspection**

HWQ-1 **Prepare and Implement Drainage Plans.** See Section 4.11**.**

HWQ-2 **Long-Term Erosion and Sediment Control Plan.** See Section 4.11**.**

Impact HWQ-6: In flood hazard, tsunami, or seiche zones, increase risk of pollutant release from Project activities or stored materials being inundated from flooding (Class II: Less than Significant with Mitigation).

Phase 1

As with the Discharge Structure, the Intake Structure would be removed with a cofferdam of adequate design to reduce the potential risk of pollutant release due to inundation from flooding during construction/removal activities. With the removal of the Intake Structure under Alternative 8, from a long-term perspective there would be fewer structures susceptible to flood hazard or tsunami, such that the risk of pollutant release from these events would be less than the Proposed Project and remain less than significant (Class III).

Like the Proposed Project, the Intake Cove would continue to be used for waste transport by barge, as well as for importing materials if the Intake Structure is backfilled. The Intake Cove represents a semi-enclosed body of water where a seiche could occur, thereby increasing the risk of pollutant release. In the event of a spill following a seiche, MM MBIO-8 (*Oil Spill Response Plan*) would reduce potential impacts to a less-than-significant level (Class II).

Railyards

Use of the railyards would continue under Alternative 8, and impacts would be identical to the Proposed Project. Impacts would be less than significant (Class III) at the PBR site, and there would be no impact at the SMVR-SB site.

Phase 2

Soil remediation, demolition of remaining structures, final site restoration, and continued Discharge Structure removal and restoration would occur as described for the Proposed Project. With the additional removals of the Breakwater and Marina under Alternative 8, from a long-term perspective there would be fewer structures susceptible to flood hazard or tsunami, such that the risk of pollutant release from these events would be less than the Proposed Project and remain less than significant (Class III). Following removal of the Breakwaters, the Intake Cove would no longer exist and there would be no risk of a seiche.

Mitigation Measures for Impact HWQ-6.

MBIO-8 Oil Spill Response Plan. See Section 4.4.

Impact HWQ-7: Conflict with implementation of the Basin Plan, or sustainable groundwater management plan as a result of groundwater dewatering or increased water use (Class III: Less than Significant).

Phase 1

As with the Proposed Project, Alternative 8 Phase 1 activities would comply with all NPDES permit requirements, including the CGP and SWPPP to reduce pollutants in stormwater runoff during decommissioning activities. No additional groundwater dewatering is expected to remove the Intake Structure and other ancillary structures within the CSLC's jurisdiction. As such, Alternative 8 would not conflict with the Basin Plan and impacts would be less than significant (Class III).

Because there is no Groundwater Sustainability Plan applicable to the DCPP site, Alternative 8 would not conflict with implementation of a sustainable groundwater management plan. No impact would occur.

Railyards

Use of the railyards would continue under Alternative 8, and no impacts would occur same as the Proposed Project.

Phase 2

As with the Proposed Project, Alternative 8 Phase 2 activities would comply with all NPDES permit requirements, including the CGP and SWPPP to reduce pollutants in stormwater runoff during decommissioning activities. No additional groundwater dewatering is expected to remove the Breakwaters and Marina. As such, Alternative 8 would not conflict with the Basin Plan. Operations would be limited to the new GTCC Storage Facility, Security Building, and indoor Firing

Range. Water use for these operations would conform to the Basin Plan and impacts would be less than significant (Class III).

Mitigation Measures for Impact HWQ-7. No mitigation measures are required.

Cumulative Impacts

In the marine environment, which is the portion of Alternative 8 that is different than the Proposed Project, water quality impacts would affect the immediate area and become more dispersed and less substantial as distance increases. Cumulative Project #25 (Port San Luis Breakwater Repair) is the only project that could pose a cumulative impact in combination with the in-water components of Alternative 8. It is not in close proximity to the DCPP site, but because it involves a breakwater repair in the same coastal area as Alternative 8, it could contribute to turbidity effects, which would be in addition to any turbidity increase related to Breakwater, Intake Structure, and Discharge Structure removal and restoration as part of Alternative 8. However, because Project #25 is expected to be completed in 2023 and the Discharge Structure, Intake Structure, Breakwater, and Marina removal and restoration elements of Alternative 8 are expected to begin around 2030, no overlap would be anticipated. Any turbidity associated with Project #25 would have settled years prior to activities proposed under Alternative 8.

Public Services and Utilities

Impact PSU-5: Generate solid waste that exceeds federal, state, or local standards or the capacity of the solid waste disposal sites (Class III: Less than Significant).

Phase 1

This alternative would result in the additional removal of the Intake Structure as part of Phase 1, which would generate on the order of approximately 800,000 cubic feet of additional waste. Despite this increase in waste, the solid waste destinations (US Ecology in Nevada and Idaho and Columbia Gorge Landfills) have sufficient capacity (see Table 4.14-3) for this additional waste. Therefore, although this alternative would generate more waste than the Proposed Project, it would not exceed the capacity of the solid waste disposal sites. Impacts would remain less than significant (Class III).

Railyards

Use of the railyards would continue under Alternative 8. It is assumed under the alternative the additional waste would be exported off-site by truck or barge (if marine approach). Therefore, impacts at the railyards would remain less than significant (Class III).

Phase 2

According to Table 5-5, *Estimated Breakwater Material Quantities*, removing the Breakwaters under Phase 2 would result in approximately 8 million cubic feet of waste material, nearly the same amount that would be generated by all on-shore decommissioning activities (approximately 8.7 million cubic feet – see Impact PSU-5 in Section 4.14, *Public Services and Utilities*). As noted for Phase 1, the solid waste destinations (US Ecology in Nevada and Idaho and Columbia

Gorge Landfills) have sufficient capacity (see Table 4.14-3) for this additional waste. Therefore, this alternative would not exceed the capacity of the solid waste disposal sites. Impacts would remain less than significant (Class III).

Mitigation Measures for Impact PSU-5. No mitigation measures are required.

Cumulative Impacts

Cumulative Project #15 (SerraMonte Townhomes) and Project #16 (Workforce Dormitories) are large residential developments that could result in a need for new or altered government facilities. The City of Santa Maria Fire Department, Santa Maria Police Department, County of Santa Barbara Public Works Department, City of Santa Maria Utilities Department, and Santa Barbara County Resource Recovery and Waste Management Division would provide public services and utilities services to these two cumulative projects. The DCPP would not be within the service radius of these departments. Additional waste generated by Alternative 8 would be transported to solid waste destinations outside of these jurisdictions. Therefore, this alternative would not result in a cumulatively considerable contribution to cumulative impacts related to solid waste generation.

Recreation and Public Access

Impact REC-1: Cause permanent or temporary, intermittent roadway, parking, or trail closures obstructing upland, shoreline, and water-dependent public access and recreation (Class I: Significant and Unavoidable).

Phase 1

As with the Proposed Project, on-site decommissioning activities for the CSLC Full Removal Alternative would not displace or interfere with the public's use of upland, shoreline, or water-dependent public access or recreational resources. Due to safety and security concerns, the public currently does not have right of access to the ocean at/from the DCPP site because of federal regulations. Existing public trail access to the Point Buchon Trail and Pecho Coast Trail as required by prior permit conditions would continue in perpetuity north and south of the DCPP site.

Material from the Intake Structure demolition would also need to be moved off site, equating to approximately 12,000 additional truck trips within Phase 1. The additional construction truck trips could result in an estimated 6 to 12 trucks per hour traveling through Avila Beach and Pismo Beach between 9:00 a.m. and 2:00 p.m., four days a week, over the course of several years, which is a substantial increase compared to a few trucks per day estimated for the Proposed Project. The substantial heavy truck traffic sustained over multiple years would conflict with summer beach and tourism activities such as pedestrian and cycling along Avila Beach Drive and create congestion and traffic delays thereby impeding access to local trails and recreational areas. Implementation of MM REC-1 (*Commercial Fishing Operations Access Plan for Avila Beach Drive*), along with MM EM-2 (*Project Plan, Updating, Tracking, and Reporting*), and MMs TRA-1 (*Truck Transport Outside of Peak Hours*), MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and TRA-7 (*Coordi-*

nation with Harbormasters) would help to reduce impacts but not to a less-than-significant level. Therefore, the impact would remain significant and unavoidable (Class I).

Railyards

Use of the railyards would continue under Alternative 8. Therefore, no impact would occur regarding access to public recreational resources.

Phase 2

Under Alternative 8, assuming a land-based approach for removal of the Breakwaters, material would be loaded on dump trucks and articulated wheel loaders and transferred to a waste processing facility. This additional removal activity would result in approximately 26,050 additional truck trips from the DCPP site traveling through both Avila Beach and Pismo Beach resulting in potentially up to 14 trips per hour. As noted for Phase 1, this additional truck traffic would create more congestion and traffic delays, especially in the summertime when beach and tourism activities are greatest, thereby impeding access to local trails and recreational areas. Implementation of MM REC-1 along with MM EM-2 and MM TRA-1 through MM TRA-5 and MM TRA-7 would help to reduce impacts but not to a less-than-significant level. Therefore, the impact would remain significant and unavoidable (Class I).

Mitigation Measures for Impact REC-1.

REC-1 **Commercial Fishing Operations Access Plan for Avila Beach Drive.** See Section 4.15.

EM-2 **Project Plan, Updating, Tracking, and Reporting.** See Section 3.

TRA-1 **Truck Transportation Outside of Peak Hours.** See Section 4.16.

TRA-2 **Specialty Heavy-Haul Transport Vehicle Transportation Management Plan.** See Section 4.16.

TRA-3 **Decommissioning Liaison.** See Section 4.16.

TRA-4 **Advance Notification of Decommissioning.** See Section 4.16.

TRA-5 **Quarterly Decommissioning Updates.** See Section 4.16.

TRA-7 **Coordination with Harbormasters.** See Section 4.16.

Residual Impacts. Alternative 8 would create a substantial increase in truck traffic, which would conflict with tourism activities in Avila Beach, and impede access to local trails and recreational areas which cannot be fully mitigated.

Impact REC-2: Restrict access to coastline or other recreational facilities or resources from additional personnel and trucking traffic on local and regional roadways (Class I: Significant and Unavoidable).

Phase 1

As discussed for Impact REC-1, the additional trucking of demolished materials from the Intake Structure would amount to approximately 12,000 additional truck trips within Phase 1 or an

estimated 6 to 12 trucks per hour traveling through Avila Beach and Pismo Beach. Therefore, impacts to coastal access or other recreational facilities from additional personnel and trucking traffic would be more severe because of the increased duration and frequency of truck trips. Implementation of MM REC-1 along with MM EM-2 and MM TRA-1 through MM TRA-5 and MM TRA-7 would reduce impacts but not to a less-than-significant level. Therefore, the impact would remain significant and unavoidable (Class I).

Railyards

Use of the railyards would continue under Alternative 8. No impact would occur regarding access to public recreational resources.

Phase 2

As discussed for Impact REC-1, assuming a land-based approach for removal of the Breakwaters, approximately 26,050 additional truck trips would originate from the DCPP site and travel through both Avila Beach and Pismo Beach resulting in potentially up to 14 trips per hour. As noted for Phase 1, this additional truck traffic would create more congestion and traffic delays, especially in the summertime when beach and tourism activities are greatest, thereby impeding access to local trails and recreational areas. Implementation of MM REC-1 along with MM EM-2 and MM TRA-1 through MM TRA-5 would help to reduce impacts but not to a less than significant level. Therefore, the impact would remain significant and unavoidable (Class I).

Mitigation Measures for Impact REC-2.

REC-1 **Commercial Fishing Operations Access Plan for Avila Beach Drive.** See Section 4.15.

EM-2 **Project Plan, Updating, Tracking, and Reporting.** See Section 3.

TRA-1 **Truck Transportation Outside of Peak Hours.** See Section 4.16.

TRA-2 **Specialty Heavy-Haul Transport Vehicle Transportation Management Plan.** See Section 4.16.

TRA-3 **Decommissioning Liaison.** See Section 4.16.

TRA-4 **Advance Notification of Decommissioning.** See Section 4.16.

TRA-5 **Quarterly Decommissioning Updates.** See Section 4.16.

Residual Impacts. Alternative 8 would create a substantial increase in truck traffic, which would conflict with tourism activities in Avila Beach, and impede access to local trails and recreational areas which cannot be fully mitigated.

Impact REC-3: Cause increased use or require the construction or expansion of existing local and regional parks or other recreational facilities (Class III: Less than Significant).

Phase 1

Implementation of the CSLC Full Removal Alternative would prolong activities associated with removal of demolished materials from the Intake Structure and would intensify Phase 1 decom-

missioning activities due to increased personnel and need for additional equipment. However, staffing levels would still be less than the existing conditions of the DCPP. Impacts would be less than significant, and no mitigation measures are required (Class III).

Railyards

Use of the railyards would continue under Alternative 8. Therefore, the impact would be less than significant (Class III).

Phase 2

Alternative 8 would prolong activities associated with removal of demolished materials from the Breakwaters and would intensify Phase 2 decommissioning activities due to increased personnel and need for additional equipment. However, staffing levels would still be less than the existing conditions of the DCPP. Impacts would be less than significant, and no mitigation measures are required (Class III).

Mitigation Measures for Impact REC-3. No mitigation measures are required.

Impact REC-4: Expose users of recreational facilities to hazards during Project decommissioning (Class II: Less Than Significant with Mitigation).

Phase 1

Implementation of the CSLC Full Removal Alternative would prolong activities associated with truck transport and removal of demolished materials off site. These additional activities could prolong exposure of users of recreational facilities, including the trailhead and parking area for the Pecho Coast Trail, as well as recreational users of the beach and amenities along Avila Beach Drive, to hazards due to large trucks and equipment entering and exiting Diablo Canyon Road, as well as dust or debris from trucks. More frequent temporary road closures along Avila Beach Drive would be needed to allow truck traffic and equipment access, as discussed for the Proposed Project under Impact REC-1 and Impact REC-2 in Section 4.15, *Recreation and Public Access*. Intermittent road closures would minimize impacts to recreationalists as they would not be able to enter the roads, parking areas, and pathways that would be impacted by truck traffic. With implementation of MM EM-2 and MM TRA-2 through MM TRA-5 impacts would be less than significant with mitigation, same as the Proposed Project (Class II).

Railyards

Use of the railyards would continue under Alternative 8. Therefore, no impact would occur regarding recreational hazards.

Phase 2

Under Alternative 8, removal of the Breakwaters would substantially increase activities in Phase 2 compared to the Proposed Project. Recreational users would therefore be exposed to likely more temporary construction traffic hazards. However, implementation of MM REC-1 along with

MM EM-2 and MM TRA-1 through MM TRA-5 and MM TRA-7 would reduce impacts to less than significant with mitigation, which is the same as the Proposed Project (Class II).

Mitigation Measures for Impact REC-4.

EM-2 **Project Plan, Updating, Tracking, and Reporting.** See Section 3.

TRA-1 **Truck Transportation Outside of Peak Hours.** See Section 4.16.

TRA-2 **Specialty Heavy-Haul Transport Vehicle Transportation Management Plan.** See Section 4.16.

TRA-3 **Decommissioning Liaison.** See Section 4.16.

TRA-4 **Advance Notification of Decommissioning.** See Section 4.16.

TRA-5 **Quarterly Decommissioning Updates.** See Section 4.16.

Cumulative Impacts

Under this alternative, the potential for cumulative impacts on recreational access and safety would be greater than the Proposed Project because of the additional trucking activity that would occur along Avila Beach Drive. Construction and operation of four cumulative projects along Avila Beach Drive, Project 3 (Avila Beach Drive at Highway 101 Interchange), Project 4 (Flying Flags Campground), Project 5 (Bob Jones Bike Trail), and Project 6 (Avila Beach Resort Phased Expansion), have the potential to temporarily or permanently impact traffic, access, and parking for public recreational facilities. However, only a minor overlap in construction schedules would occur; therefore, temporary, minor delays may occur that could impede public access on Avila Beach Drive. Similar to the Proposed Project, mitigation measures REC-1, EM-2, TRA-1 through TRA-5, and TRA-7 would reduce temporary construction traffic and road closures. Furthermore, given that Phase 2 would begin in 2032, cumulative impacts would be fewer because the four cumulative projects would likely be complete or close to completion by 2032. For this reason, Alternative 8 would not make a considerable contribution to cumulative effects associated with recreation and public access.

Transportation

Impact TRA-1: Conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b) related to vehicle miles traveled (VMT); result in a net increase in VMT compared with the existing use (No Impact).

Phase 1

As with the Proposed Project, the decommissioning of the DCPP site under this alternative would result in a reduction of VMT due to the decreased number of employees on the site. Therefore, this alternative would result in a decrease in VMT when compared to the existing conditions of the DCPP site. No impact would occur.

The truck trips associated with decommissioning activities are typically not evaluated for the purposes of CEQA due to their temporary nature. However, because of the duration of

decommissioning activities under this alternative, the VMT generated by trucks moving materials to and from the DCPP site has been provided for informational purposes (see Table 5-14).

Table 5-14. Alternative 8 Project Vehicle Miles Traveled (VMT) Generation

VMT Generator	Existing Conditions	Phase 1 with Alternative 8	Phase 2 with Alternative 8
DCPP			
Number of DCPP Employees	1,157	864	560
DCPP Employment VMT per Working Day (miles)	56,080	41,612	27,137
Santa Maria Valley Railroad (SMVR-SB) Facility			
Number of Additional Employees	-	10	-
SMVR-SB Employment VMT per Working Day (miles)	-	485	-
Total Passenger Vehicle VMT			
Total VMT per Working Day (miles)	56,080	42,097	27,137
Change from Existing Conditions	-	*-25%*	*-51%*
DCPP Decommissioning Truck Activity (information only; not considered as a CEQA impact)			
Total Number of Decommissioning Truck Trips including Alternative 8 activity	-	9,839	27,932
Total Truck VMT per Working Day (miles)	-	5,744	23,120
Total Maximum number of One-Way Daily Truck Trips[1]	-	24	54
Alternative 8 Additional Direct Truck Trips for Intake and Breakwater Removal	-	9,411	26,050
Alternative 8 Truck VMT per Working Day (miles)	-	5,039	22,690
Total VMT Inclusive of Employees and Truck Activity (information only)			
Total VMT per Working Day (miles)	56,080	47,841	50,257
Change from Existing Conditions	-	*-15%*	*-10%*

Source: See Appendix I.

[1] Maximum number of one-way daily truck trips is based on the total number of round trips required for hauling activity in each phase, multiplied by 2, and then divided by the number of working days during the phase, which assumes truck activity is limited to Monday through Thursday and excludes holidays. This number of one-way trips is further divided below to estimate a per-hour trip range based on the permissible hours of trucking each day. See Appendix I.

The quantity and round-trip distances of these truck trips are based on assumptions described in Appendix I. These truck trips and their associated distances have been added to the Phase 1 and Phase 2 truck trips of the Proposed Project. As shown in Table 5-14, these additional truck trips, when combined with the VMT generated by the Proposed Project, would still be less than the existing conditions of the DCPP site.

Railyards

The railyards are not anticipated to be used for the additional activity needed under Alternative 8, and therefore, activities at the railyards would continue to result in no impact.

Phase 2

As shown in Table 5-14, VMT associated with Phase 2 would be less than existing conditions and would result in no impact.

Mitigation Measures for Impact TRA-1. No mitigation measures are required.

Impact TRA-2: Add traffic to a roadway that has design features that are incompatible with the type of Project vehicles to be used (Class I: Significant and Unavoidable).

Phase 1

Like the Proposed Project, the CSLC Full Removal Alternative would allow access to and from the DCPP site via Diablo Canyon Road. As shown in Table 5-14, approximately 9,411 *additional* trucks would transport materials for this alternative under Phase 1 (assumes the land-based approach). These trucks would use Diablo Canyon Road to reach waste destinations, requiring travel through Avila Beach. It is assumed that between 6 and 12 trucks per hour would travel through Avila Beach between 9:00 a.m. and 2:00 p.m., four days a week over the course of several years, which is a substantial increase compared to the few trucks per day estimated for the Proposed Project. The substantial heavy truck traffic sustained over multiple years would not be compatible with the surrounding environment because it would conflict with summer beach and tourism activities such as pedestrian and cycling along Avila Beach Drive. There is no clear opportunity to mitigate the substantial increase in traffic hazards based on this intensity of trucking activity, with trucks already limited to off-peak hours per MM TRA-1 (*Truck Transport Outside of Peak Hours*) and with no alternative routes available.

Railyards

The railyards are not anticipated to be used for the additional activity needed under Alternative 8, and therefore, activities at the railyards would continue to result in no impact.

Phase 2

During Phase 2 the East and West Breakwaters would be demolished and removed such that trucking activities would be substantially greater than the Proposed Project (assuming land-based approach as worst-case). Approximately 26,050 *additional* trucks would be required to transport materials for this alternative under Phase 2, with potentially up to 14 trips per hour. As noted for Phase 1, there is no clear opportunity to mitigate the increase in traffic hazards based on this intensity of trucking activity, with trucks already limited to off-peak hours per MM TRA-1 (*Truck Transport Outside of Peak Hours*) and with no alternative routes available. Therefore, the impact would be significant and unavoidable (Class I).

Mitigation Measures for Impact TRA-2. No feasible mitigation measures were identified.

Residual Impacts. With no feasible mitigation to further reduce heavy truck traffic associated with decommissioning activities, Alternative 8 would contribute to increased traffic hazards. These hazards would conflict with tourism activities in Avila Beach and existing traffic conditions along trucking routes.

Impact TRA-3: Alter roadway conditions, such as the closure of both lanes of traffic of a roadway that serves as the primary ingress and egress for an area, in a way that would result in inadequate emergency access (Class II: Less than Significant with Mitigation).

Phase 1

Like the Proposed Project, this alternative would allow access to and from the DCPP site via Diablo Canyon Road. This alternative would also include MMs TRA-2 through MM TRA-5, which require the preparation and implementation of a Specialty Heavy-Haul Transport Vehicle TMP in consultation with jurisdictions responsible for the relevant public right-of-way, as well as providing a decommissioning liaison, advanced notification and quarterly updates of decommissioning activities to property owners, residences, and businesses along local transportation routes. The TMP would fully define emergency access, would provide direction in the event emergency vehicles need to access the area, and would include the allowable days and times for roadway closures and the necessary traffic control measures needed to implement those closures, and it would appropriately prepare emergency response units to be mobilized on either side of the closure as needed. With the implementation of MMs TRA-2 through TRA-5, Alternative 8 would not result in inadequate emergency access, and the impact would be reduced to a less-than-significant level (Class II).

Railyards

The railyards are not anticipated to be used for the additional activity needed under Alternative 8, and therefore, activities at the railyards would result in no impact.

Phase 2

During Phase 2 the East and West Breakwaters would be demolished and removed such that trucking activities would be substantially greater than the Proposed Project assuming the land-based approach. Truck trips would occur outside of peak periods per MM TRA-1, and trucking activities would be intermittent. Any intermittent road closures due to specialty heavy-haul transporters would be covered by the Specialty Heavy-Haul Transport Vehicle TMP per MM TRA-2. This alternative would not result in inadequate emergency access, and with construction of the blufftop road segment the impact would be less than significant with implementation of MM TRA-6 (*Diablo Creek Crossing Inspection and Repair*) (Class II).

Mitigation Measures for Impact TRA-3. See Section 4.16 for full text of measures.

TRA-1 Truck Transportation Outside of Peak Hours

TRA-2 Specialty Heavy-Haul Transport Vehicle Transportation Management Plan

TRA-3 Decommissioning Liaison

TRA-4 Advance Notification of Decommissioning

TRA-5 Quarterly Decommissioning Updates

TRA-6 Diablo Creek Crossing Structure Inspection and Repair

Impact TRA-4: Reduce the existing level of safety for marine vessels because of offshore vessel use (Class II: Less than Significant with Mitigation).

Phase 1

This alternative includes the removal of the entire Intake Structure during Phase 1, which would generate an estimated 60,000 tons of demolition debris. If transported by barge, this would require approximately 15 barges, requiring 8 roundtrips (where each tug pulls two barges) to Portland and Boardman, Oregon. The removal of the Intake Structure would also require a cofferdam, which would necessitate the transport of gravel utilizing an estimated 22 barges, requiring approximately 22 round trips (where each tug pulls one barge) from the Port of Long Beach over a two-year period from 2028 to 2029. The void created by the removal of the Intake Structure may be left as-is (no backfill) or backfilled. With the additional removal of the water tunnels within the CSLC jurisdiction, the backfill area would increase to an estimated 1,620,000-cubic feet requiring 114,600 1-ton stones (PG&E, 2022b – DR#7, Alternatives 1). An estimated 35 barges requiring approximately 35 round trips (where each tug pulls one barge) would be required to transport rock from Santa Catalina Island. Therefore, the removal of the Intake Structure during Phase 1 is anticipated to require up to 65 round trips, which includes 22 round trips for cofferdam gravel, 8 round trips for debris removal, and 35 round trips for quarry rock for backfill. Additionally, the export of waste from Proposed Project activities during Period 1B (2030-2033) would require 55 barges, which is approximately 28 round trips (each tugboat pulls two barges) to Portland and Boardman, Oregon.

Unlike the Proposed Project, the area of the Discharge Structure would not be backfilled with quarry rock following removal; therefore, this alternative would not require the three round trips for the transport of quarry rock by barge from the Connolly-Pacific Co. Quarry on Santa Catalina Island to the DCPP site during Period 1B (2030-2033). However, a cofferdam would still be required for the Discharge Structure removal, requiring up to 15 barge round trips during Period 1A (2024-2029) for the transport of gravel by barge from the Port of Long Beach to fill the Discharge Structure cofferdam.

Under this alternative, the potential for impacts on marine vessel safety would be greater than the Proposed Project because of the additional 62 round trips that would be required (65 round trips for the Intake Structure cofferdam, debris, and backfill, minus three round trips that would no longer be needed for the Discharge Structure backfill). As with the Proposed Project, barges would travel 50 nautical miles from the coastline, which would minimize interference with other marine vessels. Barge operations are also required to comply with applicable marine vessel safety regulations, including coordination with the US Coast Guard and avoiding or minimizing the crossing of traffic lanes. In addition, similar to the Proposed Project, with implementation of MMs TRA-7 and TRA-8, including coordinating with the harbormasters at local ports and contracting with a marine surveyor to prepare safety assessments, impacts under this alternative would be less than significant with mitigation (Class II).

Railyards

Use of the railyards would continue under Alternative 8, and marine vessels would not be affected by activities at the railyards. Therefore, no impact would occur.

Phase 2

During Phase 2, the demolition of the Breakwaters would require an estimated 172 barges, which totals approximately 86 round trips (where each tug pulls two barges), to transport materials (cement cap, injected concrete, tribars, and underlying gravel) from the DCPP site. As with the Proposed Project, barges would travel 50 nautical miles from the coastline, which would minimize interference with other marine vessels. Barge operations are also required to comply with applicable marine vessel safety regulations, including coordination with the US Coast Guard and avoiding or minimizing the crossing of traffic lanes. In addition, similar to the Proposed Project, with implementation of MMs TRA-7 and TRA-8, including coordinating with the harbormasters at local ports and contracting with a marine surveyor to prepare safety assessments, impacts under this alternative would be less than significant with mitigation (Class II).

Mitigation Measures for Impact TRA-4. See Section 4.16 for full text of measures.

TRA-7 Coordination with Harbormasters

TRA-8 Marine Surveyor Assessment

Cumulative Impacts

Ground Transportation. Under this alternative, the potential for cumulative impacts on ground transportation would be greater than the Proposed Project because of the greater number of truck trips to and from the DCPP site required for the full removal of the Intake Structure and Breakwaters. In this case, there could be short-term cumulative effects with related projects such as the construction of the roundabout on Avila Beach Drive at the US-101 ramps given the volume and frequency of truck trips planned, if that phase of the Project were to occur during construction of the roundabout. However, the competed roundabout itself would not preclude the volume of truck trips proposed, and although lasting several years, the increased trucking activity would be temporary and cease with the completion of the decommissioning activities. Therefore, this alternative would not make a lasting contribution to cumulative impacts associated with ground transportation.

Marine Transportation. Under this alternative, the potential for cumulative impacts on marine vessel safety would be greater than the Proposed Project because of the 140 additional round trips for barge transport, which includes 54 additional round trips during Phase 1 and 86 additional round trips during Phase 2. However, similar to the Proposed Project, the offshore marine traffic generated by this alternative, although lasting several years, would be temporary and would cease with completion of the decommissioning activities associated with the Proposed Project. This alternative would not make a lasting contribution to cumulative impacts associated with marine traffic. Similar to the Proposed Project, with implementation of MMs TRA-7 and TRA-8, including coordinating with harbormasters at local ports and contracting with a marine surveyor to prepare safety assessments, barge transport associated with this alternative would not result in a cumulatively considerable contribution to cumulative impacts related to marine vessel safety.

5.5 Comparison of Proposed Project and Alternatives

Table 5-15 provides a comparison of the Proposed Project with the seven alternatives evaluated in Section 5.4, *Alternatives Evaluated in this EIR*, with particular focus on those impacts where there are noteworthy differences.

Table 5-15. Comparison of Alternatives

	Impacts Compared to the Proposed Project								
Environmental Resource	**Proposed Project**	**Alternative 1: SAFSTOR**	**Alternative 2: CSLC No Project**	**Alternative 3: Minimum Demolition**	**Alternative 4: Firing Range Minimum Earthwork**	**Alternative 5: Firing Range Partial Backfill**	**Alternative 6: No Waste by Rail**	**Alternative 7: Delayed Decommissioning**	**Alternative 8: CSLC Full Removal**
Aesthetics: Substantially degrade the visual character or quality of the site and its surroundings	Less than Significant (Class III)	Same as Proposed Project	Remains a beneficial effect, but would not fully restore as much of the DCPP site to its natural condition	Visual quality of the site would be lower with buildings remaining at the DCPP site	Remains a beneficial effect but would not fully restore the Firing Range. Avoids use of SE Borrow Site.	Remains a beneficial effect more than Alt. 4 but would not fully restore the Firing Range; avoids use of SE Borrow Site	Same as Proposed Project at DCPP; avoids visual changes and nighttime lighting at SMVR-SB site (fencing, etc.)	Same as Proposed Project	Greatest beneficial effect. Most restoration of DCPP site to natural conditions.
Air Quality: Increase criteria air pollutants and expose sensitive receptors to substantial pollutant concentrations	Less than Significant with Mitigation (Class II)	Less severe due to improved fuel standards over time and greater radiological decay potentially reducing amount of waste for transport	Less severe with fewer structures demolished, decreasing transportation and construction emissions	Much less severe with fewer structures demolished, decreasing transportation and construction emissions	Less severe due to less earthwork at DCPP and less waste transport decreasing emissions	Slightly less severe due to less earthwork and less material hauled off site, decreasing emissions; more severe than Alt. 4	Similar to Proposed Project for DCPP site but reduced to less than significant for the railyards as not used	More severe due to simultaneous building construction and DCPP operations; can be mitigated to a level that is less than significant	More severe due to substantially more structure demolition and additional waste transport
Biological Resources – Terrestrial: Result in permanent and temporary loss of native vegetation communities, ESHAs, or protected wetlands and waters	Less than Significant with Mitigation (Class II)	Vegetation community diversity and abundance or new ESHA designations may change over time	Slightly less severe due to not removing coastal bluff vegetation and designated ESHA adjacent to the Discharge Structure	Less severe due to less ground-disturbance	Less severe due to no ground disturbance at SE Borrow Site and no oak or other native mature tree trimming along access road to SE Borrow Site	No ground disturbance at SE Borrow site and no oak or other native mature tree trimming along access road to SE Borrow site, but adds new ground disturbance from cut adjacent to Firing Range in area of native coyote brush scrub habitat.	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project
Biological Resources – Terrestrial: Establish and/or spread of noxious and invasive weeds	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Less severe due to less ground-disturbance	Less severe due to substantially less ground-disturbance	Less severe due to no ground disturbance at SE Borrow Site	Less severe due to no ground disturbance at SE Borrow Site	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project
Biological Resources – Terrestrial: Result in the loss or disturbance to breeding birds or special-status species	Less than Significant with Mitigation (Class II)	Plant and wildlife species diversity and abundance may change over time	Slightly less severe due to less ground-disturbance and leaving coastal bluff habitat around Discharge Structure and potential nesting and roosting sites for birds and special-status bats intact along coastline	Much less severe due to less ground-disturbance and leaving potential nesting and roosting sites for birds and special-status bats intact	Less severe due to no ground disturbance at SE Borrow Site or tree trimming along the access road to SE Borrow Site. Suitable habitat for nesting birds and special-status species (e.g., burrowing owl) at these locations left intact.	Reduction of impacts to habitat associated with the SE Borrow Site and its access road partially offset by additional impacts to coyote brush scrub and wild oats and annual brome grasslands adjacent to the Firing Range.	Less severe due to no activities at railyards. These facilities and adjacent lands support suitable habitat for some nesting birds and special-status species (e.g., monarch butterfly).	Same as Proposed Project	Same as Proposed Project

Table 5-15. Comparison of Alternatives

	Impacts Compared to the Proposed Project								
Environmental Resource	**Proposed Project**	**Alternative 1: SAFSTOR**	**Alternative 2: CSLC No Project**	**Alternative 3: Minimum Demolition**	**Alternative 4: Firing Range Minimum Earthwork**	**Alternative 5: Firing Range Partial Backfill**	**Alternative 6: No Waste by Rail**	**Alternative 7: Delayed Decommissioning**	**Alternative 8: CSLC Full Removal**
Biological Resources – Marine: Destroy or degrade marine habitat(s)	Significant and Unavoidable (Class I)	Same as Proposed Project	No impacts to marine biological resources as Project activities would not occur offshore	No impacts to marine biological resources as Project activities would not occur offshore	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	More severe due to disturbance of marine habitat and special-status species
Coastal Processes: Expose structures, workers, and the public to damage or injury due to coastal hazards (flooding, wave runup, tsunamis, bluff erosion and instability), and increases effects of coastal flooding or erosion associated with SLR	Less than Significant with Mitigation (Class II)	Delayed removal of structures may increase exposure to coastal hazards, including SLR; coastal areas would be monitored for stability and hardened shoreline of Marina and backfill of Discharge Structure area reduces effects of SLR	Leaves more structures along shoreline exposed to coastal hazards, including SLR; coastal areas would be monitored for stability and hardened shoreline around DCPP structures reduces effects of SLR	May leave more structures along the shoreline exposed to coastal hazards and effects of SLR; coastal areas would be monitored for stability and hardened shoreline around DCPP structures reduces effects of SLR	Same as Proposed Project	Same as Proposed Project	If more waste is shipped by barge, exposure of workers to coastal hazards increases; increased barge/tugboat use increases risk of pollutant release in the event of a seiche in the Intake Cove. SLR effects are same as Proposed Project.	Same as Proposed Project	Removes more structures along shoreline resulting in greater exposure of construction workers to coastal hazards, especially during removal of the Breakwaters. Not back-filling Discharge or Intake Structure voids could increase bluff erosion and instability; coastal areas would be stabilized to the extent possible without use of shoreline hardening. However, disturbed areas may continue to erode and affect coastal waters resulting in a significant and unavoidable impact (Class I).

Table 5-15. Comparison of Alternatives

	Impacts Compared to the Proposed Project								
Environmental Resource	**Proposed Project**	**Alternative 1: SAFSTOR**	**Alternative 2: CSLC No Project**	**Alternative 3: Minimum Demolition**	**Alternative 4: Firing Range Minimum Earthwork**	**Alternative 5: Firing Range Partial Backfill**	**Alternative 6: No Waste by Rail**	**Alternative 7: Delayed Decommissioning**	**Alternative 8: CSLC Full Removal**
Coastal Processes: Impair nearshore sediment properties, characteristics, or processes or wave, current, or circulation patters	Less than Significant with Mitigation (Class II)	Same as Proposed Project	No removal of shoreline structures, so much less impact on coastal processes; same localized water circulation effects due to no OTC	Potentially less removal of shoreline structures, so less impact; same localized water circulation effects due to no OTC	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	More shoreline structure removals increases potential for construc-tion activities to affect nearshore coastal processes. Voids left from removal of Discharge and Intake Structures (if not back-filled) could increase bluff erosion and instability and create localized eddy effects subsiding over time. Coastal areas would be monitored for stability. Long-term effects would be eliminated as all shoreline structures removed.
Cultural Resources – Archaeology and Tribal Cultural Resources: Cause a substantial adverse change in the significance of historical or unique archaeological resources or Tribal Cultural Resources, or disturbance of human remains	Significant and Unavoidable (Class I)	Same as Proposed Project	Less severe because no ground disturbance in areas under CSLC jurisdiction	Less severe because no ground disturbance in areas where buildings and structures can remain in place	Less severe because no ground disturbance at SE Borrow Site	Trades off area of SE Borrow site for area immediately adjacent to Firing Range, so similar to Proposed Project	Same as Proposed Project	Same as Proposed Project	More severe because of the additional ground disturbance from removal of Breakwaters and Intake Structure
Greenhouse Gases: Generate substantial GHG emissions	Less than Significant with Mitigation (Class II)	Less severe due to improved fuel standards over time and greater radiological decay potentially reducing amount of waste for transport	Less severe with fewer structures being demolished decreasing transportation and construction emissions	Less severe with fewer structures being demolished decreasing transportation and construction emissions	Less severe due to less earthwork at DCPP and less waste transport decreasing emissions	Slightly less severe due to less earthwork and less material hauled off site, decreasing emissions; more severe than Alt. 4	Rail emissions eliminated, but increased truck use results in greater CO_2e per mile	More severe due to simultaneous building construction and DCPP operations, but can be mitigated to a level that is less than significant	Much more severe due to substantially more structure demolition and additional waste transport

Table 5-15. Comparison of Alternatives

	Impacts Compared to the Proposed Project								
Environmental Resource	**Proposed Project**	**Alternative 1: SAFSTOR**	**Alternative 2: CSLC No Project**	**Alternative 3: Minimum Demolition**	**Alternative 4: Firing Range Minimum Earthwork**	**Alternative 5: Firing Range Partial Backfill**	**Alternative 6: No Waste by Rail**	**Alternative 7: Delayed Decommissioning**	**Alternative 8: CSLC Full Removal**
Hazardous Materials: Expose people or schools to non-radiological hazardous materials from existing sources or accidental release; expose workers or public to Valley Fever	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Less severe because of less ground disturbance and waste transport from fewer structure removals	Less severe because of less ground disturbance and waste transport from fewer structure removals	Same as Proposed Project	Same as Proposed Project	Similar to Proposed Project because impacts from railyard operations would be diverted to truck and barge routes; impacts to schools reduces from Class III to no impact	Same as Proposed Project	Much more severe because of more ground disturbance and higher volumes of waste generated from more structure removals
Hazardous Radiological Materials: Cause exposure of workers, public, or environment to radiological materials resulting in a failure to comply with applicable regulations	Less than Significant (Class III)	Radiological hazards would decrease slightly due to radioactive decay over 60 years, but would still meet the same regulatory cleanup standards	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project, but no impact at railyards	Additional nuclear fuel would need to be procured and brought to the site for continued operations, but would be handled per NRC regulations resulting in the same impacts as the Proposed Project	Same as Proposed Project
Hydrology and Water Quality: Degrade marine water quality, including increasing turbidity and debris, or exceeding the California Ocean Plan salinity requirements, or reducing dissolved oxygen concentrations	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Less impact as no removal of shoreline structures	Potentially less removal of shoreline structures so less impact	Same as Proposed Project	Same as Proposed Project	Voids left from removal of Discharge and Intake Structures (if not backfilled) could increase bluff erosion and instability; coastal areas would be monitored for stability.	Same as Proposed Project	More construction in marine area substantially increases potential to degrade marine water quality and increase turbidity, but mitigable; no impacts would occur related to Marina operations
Hydrology and Water Quality: Increase soil erosion and sedimen-tation due to removing structures and/or impervious surface areas, alter drainage patterns, or exceed capacity of stormwater conveyance structures	Less than Significant (Class III)	Same as Proposed Project	Slightly less area affected as fewer structures removed	Slightly less area affected as fewer structures removed	Avoids use of the SE Borrow Site and involves the least earthwork reducing potential erosion, sedimentation, and drainage alteration impacts	Avoids use of the SE Borrow Site reducing potential erosion, sedimentation, and drainage alteration impacts, but less so than Alt. 4 with grading adjacent to Firing Range	Same as Proposed Project	Same as Proposed Project	Voids left from removal of Discharge and Intake Structures (if not back-filled) could increase bluff erosion and instability; coastal areas would be stabilized to the extent possible without use of shoreline hardening. However, disturbed areas may continue to erode and effect coastal waters

Table 5-15. Comparison of Alternatives

	Impacts Compared to the Proposed Project								
Environmental Resource	**Proposed Project**	**Alternative 1: SAFSTOR**	**Alternative 2: CSLC No Project**	**Alternative 3: Minimum Demolition**	**Alternative 4: Firing Range Minimum Earthwork**	**Alternative 5: Firing Range Partial Backfill**	**Alternative 6: No Waste by Rail**	**Alternative 7: Delayed Decommissioning**	**Alternative 8: CSLC Full Removal**
									resulting in a significant and unavoidable impact (Class I).
Hydrology and Water Quality: Increase risk of pollutant release in flood hazard, tsunami, or seiche zones	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Structures along coastline would not be removed reducing risk; fewer barges and tugboats used reduces risk of pollutant release in the event of a seiche in the Intake Cove	Structures along coastline may not be removed reducing risk; potentially fewer barges and tugboats used reduces risk of pollutant release in the event of a seiche in the Intake Cove	Same as Proposed Project	Same as Proposed Project	If more waste is shipped by barge, risk of pollutant release in the event of a seiche in the Intake Cove increases	Same as Proposed Project	More barge/tugboat trips increases risk of pollutant release in the event of a seiche in the Intake Cove; long-term risks are eliminated as Intake Cove and Marina removed and no operational in-water activities
Land Use and Planning: Disrupt or displace an existing land use	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Same as Proposed Project with some reduction in waste transport; impact remains less than significant with mitigation	Substantial reduction in waste transport but impact remains less than significant with mitigation	Same as Proposed Project	Same as Proposed Project	Temporary land use disruptions would be avoided along the railyard transport routes. Significant but mitigable impact would still occur in the Avila Beach community	Same as Proposed Project	Increase in waste transport, but impact remains less than significant with mitigation
Noise: Cause a substantial temporary or permanent increase ambient noise levels or exceed established standards	Less than Significant with Mitigation (Class II)	Identical or less than Proposed Project during SAFSTOR, but ultimately could be greater noise impacts due to potential for more development and sensitive receptors	Less onshore work which could reduce intensity or duration but expected to generate same noise and vibration levels at DCPP and railyards. Avoids offshore activities	Substantial reduction in duration and intensity but expected to generate same noise and vibration levels at DCPP and railyards. Avoids offshore activities	Similar noise and vibration levels to Proposed Project, but intensity of earthwork at DCPP may decrease slightly	Similar noise and vibration levels to Proposed Project, but intensity of earthwork at DCPP may decrease slightly (but not as much as under Alternative 4)	Same impacts at DCPP but eliminates impacts from railyard modifications and operations	Same as or slightly greater due to simultaneous building construction and DCPP operations, as well as a potential increase in sensitive receptors in the surrounding community	Generates double the noise associated with haul truck traffic but would result in the same impact levels as the Proposed Project
Public Services and Utilities: Exceed capacity of solid waste disposal sites	Less than Significant (Class III)	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Less severe due to no impact at railyards	Same as Proposed Project	Demolition of Intake Structure and Breakwaters would generate more solid waste but would not exceed capacity of disposal sites

Table 5-15. Comparison of Alternatives

	Impacts Compared to the Proposed Project								
Environmental Resource	**Proposed Project**	**Alternative 1: SAFSTOR**	**Alternative 2: CSLC No Project**	**Alternative 3: Minimum Demolition**	**Alternative 4: Firing Range Minimum Earthwork**	**Alternative 5: Firing Range Partial Backfill**	**Alternative 6: No Waste by Rail**	**Alternative 7: Delayed Decommissioning**	**Alternative 8: CSLC Full Removal**
Recreation and Public Access: Cause permanent, temporary or intermittent roadway, parking, or trail closures or otherwise restrict access to upland, shoreline, and water-dependent public access and recreation	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Less severe due to fewer truck trips that would temporarily interfere with public and recreational access	Less severe due to fewer truck trips and personnel at the DCPP site that would temporarily interfere with recreational access	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Increases impact to significant and unavoidable due to additional truck trips from DCPP site that would temporarily interfere with public and recreational access
Recreation and Public Access: Expose users of recreational facilities to hazards	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Less severe due to fewer truck trips that would temporarily expose recreational users to hazards	Less severe due to fewer truck trips that would temporarily expose recreational users to hazards	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	More severe due to additional truck trips from DCPP site that would temporarily expose recreational users to hazards
Transportation: Add traffic to a roadway that has design features that are incompatible with the type of Project vehicles to be used	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Increases impact to significant and unavoidable due to prolonged and intense levels of heavy truck activity
Transportation: Alter roadway conditions, such as the closure of both lanes of traffic of a roadway that serves as the primary ingress and egress for an area, in a way that would result in inadequate emergency access	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Same as Proposed Project	Construction of blufftop road segment may be precluded by the remaining buildings reducing impact to less than significant; secondary emergency access benefit of having this road segment would not occur	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Eliminates reuse of the Marina and its emergency access needs

Table 5-15. Comparison of Alternatives

	Impacts Compared to the Proposed Project								
Environmental Resource	**Proposed Project**	**Alternative 1: SAFSTOR**	**Alternative 2: CSLC No Project**	**Alternative 3: Minimum Demolition**	**Alternative 4: Firing Range Minimum Earthwork**	**Alternative 5: Firing Range Partial Backfill**	**Alternative 6: No Waste by Rail**	**Alternative 7: Delayed Decommissioning**	**Alternative 8: CSLC Full Removal**
Transportation – Marine: Reduction in the existing level of safety for marine vessels because of offshore vessel use	Less than Significant with Mitigation (Class II)	Same as Proposed Project	Less severe because the transport of fill by barge for the Discharge Structure removal and cofferdam would not be required, resulting in a reduction of 18 round trips (15 round trips during Period 1A and 3 round trips during Period 1B)	Less severe because the transport of fill by barge for the Discharge Structure removal and cofferdam would not be required, resulting in a reduction of 18 barge trips (15 round trips during Period 1A and 3 round trips during Period 1B)	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	Same as Proposed Project	More severe because of up to 65 additional barge round trips to dispose of demolition debris for the Intake Structure (8), cofferdam fill material (22), and backfill (35) in Phase 1 offset by a reduction of 3 barge trips for Discharge Structure backfill. Plus, an estimated 86 additional round trips to remove Breakwater demolition materials by barge during Phase 2.

5.5.1 Environmentally Superior Alternative

State CEQA Guidelines section 15126.6, subdivision (e)(2), states, in part, that an EIR shall identify an environmentally superior alternative among the other alternatives "if the environmentally superior alternative is the 'No Project' alternative" (emphasis added). Table 5-15 compares the Proposed Project impacts with those of the alternatives.

Two "No Project" alternatives were considered: SAFSTOR Alternative and CSLC No Project Alternative. The SAFSTOR Alternative would delay decommissioning by up to 60 years, allowing for slightly greater radiological decay and considering the potential for advancements in technology for construction equipment may result in fewer air quality and GHG emissions in the future. Ultimately, however, removal of the structures at the DCPP site would occur and all the impacts would happen and be similar, if not the same, as the Proposed Project. While environmentally superior to the Proposed Project, the County must consider the delay that would occur, limiting any potential development of the DCPP site for an extended period.

The CSLC No Project Alternative provides a similar benefit of delaying structure removals. This alternative eliminates removal of the structures with the CSLC's jurisdiction, including the Discharge Structure, Intake Structure, Breakwaters, Marina, storage facility, office facilities, intake electrical room, intake maintenance shop, equipment storage pad, and spare tri-bar storage facilities. As such, impacts on the marine environment (other than during closure of the Intake Structure) would be avoided, and impacts associated with removal of onshore structures would be reduced, as some would be left in place. This alternative requires CSLC to issue a new lease to PG&E with ultimate disposition delayed indefinitely. While environmentally superior to the Proposed Project, without plans for future use of the remaining structures, these facilities would become an ongoing maintenance issue and may limit future development of the DCPP site.

Of the remaining action alternatives, the Minimum Demolition Alternative (Alternative 3) would be environmentally superior, as it drastically reduces the amount of demolition required and associated impacts. However, similar to the CSLC No Project Alternative, leaving existing structures in place without plans for future use would lead to ongoing maintenance issues, including safety and those related to coastal erosion and sea-level rise, and may limit future development of the DCPP site. Additionally, the visual quality of the site would be lower than under the Proposed Project, leaving the site littered with abandoned structures that may or may not be reused under a future site reuse scenario (see Section 8).

Of the remaining alternatives, which all generally implement the Proposed Project but with various modifications, Alternative 5, Firing Range Partial Backfill Alternative, would be environmentally superior. By eliminating the need to use the undisturbed, SE Borrow Site to fill the Firing Range, this alternative reduces the amount of site disturbance by 6 acres (102 acres vs. 96 acres) and eliminates the approximately 3,800 one-way on-site truck trips between the SE Borrow Site and the Firing Range. While the original, natural conditions in the Firing Range area would not be fully achieved, positive drainage would be maintained. This alternative would have slightly more earth movement than Alternative 4, Firing Range Minimum Earthwork Alternative, but would result in a long-term, greater beneficial aesthetic impact, as the Firing Range area would be partially backfilled. Additionally, Alternative 5 more closely aligns with the County of San Luis

Obispo Local Coastal Program, Coastal Plan polices, including Visual and Scenic Resource Policy 1: Protection of Visual and Scenic Resources and Policy 5: Landform Alterations (see Section 4.1, *Aesthetics* - Table 4.1-1). Erosion-related impacts related to hydrology and water quality and geology and soils would all be reduced by not cutting into the hillside at the SE Borrow Site and avoids additional ground disturbance in a hillside that is otherwise pristine. Furthermore, all terrestrial biological resources impacts related to oak tree trimming along the road to the SE Borrow Site and impacts to the vegetation at the SE Borrow Site would be avoided. As such, the Firing Range Partial Backfill Alternative (Alternative 5) is considered the environmentally superior alternative.

6. Other Required CEQA Sections (Phases 1 and 2)

PG&E submitted a Development Plan/Coastal Development Permit and Conditional Use Permit Application to the County of San Luis Obispo Department of Planning and Building to decommission the Diablo Canyon Power Plant (DCPP). The Proposed Project includes decommissioning, decontaminating, and dismantlement of the majority of the plant at the expiration of its current 10 Code of Federal Regulations Part 50 facility operating licenses. Decommissioning would occur over two phases:

- Phase 1 (2024 through 2031): Pre-planning and Decommissioning Project Activities, and
- Phase 2 (2032 through 2039): Completion of Soil Remediation, Final Status Surveys, and Final Site Restoration.

Approximately two-thirds of the decommissioning activities at the DCPP site would occur within the California Coastal Zone which is within the jurisdiction of the County of San Luis Obispo, under the County's certified Local Coastal Program, and the California Coastal Commission (CCC). Other portions of the DCPP site are within the original jurisdiction of the CCC and the jurisdiction of the California State Lands Commission (CSLC), specifically DCPP components in tidelands and submerged lands. The remainder of the site is located outside of the Coastal Zone. Separately, the US Nuclear Regulatory Commission (NRC) has exclusive jurisdiction and regulatory authority over the radiological aspects of decommissioning nuclear power plants in the United States.

As lead agency under the California Environmental Quality Act (CEQA), the County of San Luis Obispo prepared this EIR to evaluate the potential significant environmental effects associated with the Proposed Project. Descriptions of the Project components are provided in Section 2, *Project Description (Phases 1 and 2)*.

The State CEQA Guidelines state in part that an EIR shall:

- Identify and focus on the significant environmental effects of a proposed project (§15126.2, subd. [a]),
- Describe any significant impacts, including those that can be mitigated but not reduced to a level of insignificance (§ 15126.2, subd. [b]),
- Identify significant irreversible environmental changes that would be caused by a proposed project should it be implemented (§ 15126.2, subd. [c]),
- Identify effects found not to be significant (§ 15128), and
- Identify any growth-inducing impacts of a proposed project such as the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment (§ 15126.2, subd. [d]).

These elements are discussed in Sections 6.1 through 6.4 below.

6.1 Significant Environmental Effects that Cannot be Avoided

Section 4, *Environmental Impact Analysis*, includes a detailed discussion of the significant environmental impacts anticipated as a result of the Proposed Project, along with mitigation measures (MMs) to reduce or avoid significant impacts. State CEQA Guidelines Section 15126.2,

subdivision (b), requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible MMs. As shown in Table 6-1, multiple significant unavoidable impacts (i.e., an impact that cannot be reduced to a level of insignificance) of the Proposed Project were identified. Table 6-1 lists the significant and unavoidable impacts of the Proposed Project and provides a summary discussion of why the impact remains significant.

Table 6-1. Summary of Proposed Project Significant and Unavoidable Impacts

Issue Area (Section)	Impact Number and Statement	Discussion
4.4 Biological Resources – Marine	MBIO-1: Destroy or degrade marine habitat(s) during decontamination and dismantlement activities including habitat of state or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat. MBIO-2: Harm or disturb marine special-status invertebrate, fish, reptile, bird, or mammal. MBIO-4: Release pollutants into receiving water during decommissioning activities.	These significant and unavoidable impacts are a result of the uncertainty associated with the success of relocation of black abalone, which may be required with implementation of MMs MBIO-4 and MBIO-5 associated with Discharge Structure removal and restoration activities in Phases 1 and 2 of the Proposed Project. As such, the mitigation may not fully mitigate the impacts to black abalone.
4.5 Cultural Resources – Archaeology	CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5. CUL-2: Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5. CUL-3: Disturb any human remains, including those interred outside of formal cemeteries.	These significant and unavoidable impacts are a result of the sensitive nature of the DCPP site and the potential for encountering unanticipated buried resources that could be eligible for listing in the California Register of Historical Resources, or encountering human remains.
4.6 Cultural Resources – Tribal Cultural Resources	TCR-1: Cause a substantial adverse change in the significance of the Tribal Cultural Resource that is either listed or eligible for listing in the CRHR or in a local register of historical resources, or determined by the CEQA lead agency, in its discretion and supported by substantial evidence, to be significant.	Through AB52 consultation, two known historical resources have been identified as Tribal Cultural Resources by consulting tribes. Due to the sensitive nature of the DCPP site, the potential for encountering unanticipated buried resources is highly probable even in previously disturbed areas.

6.2 Significant Irreversible Changes Caused by the Project If Implemented

Significant irreversible environmental changes that would be involved with a proposed project may include the following (State CEQA Guidelines, § 15126.2, subd. [c]).

- Uses of non-renewable resources during the initial and continued phases of the project, which would be irreversible because a large commitment of such resources makes removal or non-use thereafter unlikely.
- Primary impacts and, particularly, secondary impacts which commit future generations to similar uses.

- Irreversible damage, which may result from environmental accidents associated with the project.

The Proposed Project includes dismantling and removing the majority of infrastructure at the DCPP. The Proposed Project would retain the existing energy-infrastructure (230 and 500 kilovolt switchyards), primary and secondary access roads, Independent Spent Fuel Storage Installation (ISFSI), raw water reservoirs, and construct a new security building, firing range, and Greater Than Class C (GTCC) waste storage facility. PG&E also proposes to retain the existing Eastern and Western Breakwaters and Intake Structure.

Some non-renewable and locally limited resources such as fossil fuels would be consumed; however, in the context of local, regional, and global energy consumption, the proposed use of non-renewable fossil fuels associated with Proposed Project implementation would not be considered a large commitment for the use of such resources and would not contribute to the continued use of and reliance upon such non-renewable resources.

The Proposed Project's primary impacts are short-term effects associated with the dismantling and decontamination of the DCPP site, including the use of the Pismo Beach Railyard and the Santa Maria Valley Railyard facility. By their nature, most of these impacts would not have lasting effects and would cease when decommissioning is completed. As a result, they would not adversely affect future generations.

Implementation of the Proposed Project would result in various forms of environmental damage to the land from dismantling and demolition activities. This damage would occur during implementation of the Proposed Project and may persist for a short time afterwards until the site is fully stabilized and restored. None of this damage is irreversible. Although cut and fill activities would alter the landscape, site restoration activities during Phase 2 would regrade and revegetate affected areas. Restored areas would closely blend in with the local natural topography and minimize erosion and promote natural drainage. In addition, as described in the discussion of Impact HAZ-8 in Section 4.10.4, decommissioning activities associated with the Proposed Project could potentially adversely affect the health of workers and the public as a result of radiation exposure. Industry standard practice and mitigation measures to contain or manage contaminated surfaces, airborne fugitive dust, contaminated soils, or liquid effluents can avoid such exposures. Radiological exposures to workers and the public are expected to be below NRC and US Environmental Protection Agency thresholds.

6.3 Effects Found Not to be Significant

Based on an initial review and analysis, the Proposed Project would have no impact or a less-than-significant impact on certain environmental issues. Reasons why no significant impacts are expected related to these issues, which this EIR does not review, are discussed below as required pursuant to State CEQA Guidelines Section 15128.

6.3.1 Mineral Resources

The US Geologic Survey Mineral Resources Data System identifies the locations of mineral resources and classifies records based on completeness, consistency, and quality of reference sources. Records are graded A through E, with A indicating most complete and consistent records,

to E indicating records lacking important information. One "D Record" mineral resource, Betteravia Plant, owned by the Union Sugar Company, is located at Betteravia Industrial Park (SMVR-SB). As described in Section 2.2.2.3, *Santa Maria Valley Railyard*, SMVR-SB used to be a sugar factory before being used by the SMVR as a railyard. As such, this mineral resource is no longer actively used at the SMVR-SB site, and the Proposed Project would have no effect on this mineral resource. No mineral resources are identified to be located within the DCPP or PBR sites (USGS, 2022). Therefore, the Proposed Project would have no impact on mineral resources because it would not result in the loss of availability of (1) a known mineral resource that would be of value to the region and the residents of the State or (2) a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

6.3.2 Population and Housing

As presented in Section 2, *Project Description*, an estimated peak workforce of approximately 870 workers is anticipated in Phase 1 and approximately 270 workers in Phase 2 at the DCPP site. A portion of this workforce would be PG&E staffing, which is expected to have a peak of 490 workers and an average of 420 workers in Phase 1, and a peak of 165 workers and an average of 160 workers in Phase 2. Staffing would continue to decrease during decommissioning until the main plant site remediation is complete. After remediation, the only staff needed on site at DCPP would be those required to monitor and protect the ISFSI and GTCC Waste Storage Facility. At the SMVR-SB facility, approximately 24 temporary employees would be on site to support waste transport activities during Phase 1. No additional employees are anticipated to be required at the PBR facility. Most of the workforce conducting Project-related activities would be from the local area. Workers from outside the local area would likely stay in rental housing in Avila Beach, Los Osos, Pismo Beach, or other nearby communities. This could indirectly increase activity in local retail establishments if construction workers patronized local establishments but would not significantly increase the population in the area, induce employment, or displace local businesses or residents.

Upon completion of the Proposed Project, the majority of the DCPP site would be restored. The Marina would be retained and leased and/or sublet (or other arrangement) to a third party for reuse for recreational, educational, and/or commercial purposes. Further, any reuse operations at the Marina would be subject to future CEQA review and require separate permitting. These future uses would not impact population and housing or cause indirect growth-inducing impact because they are not expected to:

- Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure);
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

6.4 Growth-Inducing Impacts of the Proposed Project

State CEQA Guidelines Section 15126.2, subdivision (d), states that growth-inducing impacts of the project must be discussed in the EIR. In general terms, a project may induce spatial, economic, or population growth in a geographic area if it meets any one of the four criteria identified below:

- Removal of an impediment to growth (e.g., establishment of an essential public service or the provision of new access to an area)
- Economic expansion or growth (e.g., changes in revenue base or employment expansion)
- Establishment of a precedent-setting action (e.g., an innovation, a change in zoning, or general plan amendment approval)
- Development or encroachment in an isolated area or one adjacent to open space (i.e., being different from an "infill" type of project)

The Proposed Project does not involve the construction of any new facilities or infrastructure that would result in the removal of an impediment to growth. Rather, the Proposed Project consists of the removal of a major utility facility. The removal of this facility does not involve the establishment of any new public services; it could provide access to previously inaccessible areas, but this access would be limited given the nature and sensitivity of the Project area. As a result, the Proposed Project would not remove an impediment to growth nor provide facilities or services to support growth.

The Proposed Project is not expected to induce workers to relocate to the local area on any permanent basis. Employees are expected to be drawn largely from the large existing pool of skilled workers in San Luis Obispo County and Santa Barbara County. Since DCPP would no longer be an operating power facility upon completion of decommissioning, the substantial economic activity associated with its former operation, including employment of workers, would be substantially reduced. Therefore, the economic activity associated with decommissioning is minor and not significant as DCPP's economic importance to the local area and region will decline as decommissioning is completed.

The Proposed Project has no precedent-setting action that would lead to growth. Upon completion of decommissioning, the existing Owner-Controlled Area, where access is limited by PG&E, would be reduced to only encompass the remaining facilities, except for the Eastern and Western Breakwaters and Intake Structure. Activities within the Owner-Controlled Area would be limited to ISFSI and GTCC Waste Storage Facility operations until an off-site interim storage facility or permanent repository is available. The Marina would be retained and leased and/or sublet (or other arrangement) to a third-party for reuse for recreational, educational, or commercial purposes. However, as discussed in Section 6.3.2, *Population and Housing*, these future uses would not induce growth as they would not construct new homes, expand existing infrastructure, or displace existing housing or people.

The DCPP site is surrounded by non-urbanized land uses, and adjacent areas, including Montaña de Oro State Park, used for public recreation. The Proposed Project does not include development outside of the existing DCPP footprint. Adjacent areas would remain as open space and park lands for the foreseeable future. Concepts for the future reuse of the power plant property

are described in Section 8, *Potential Site Reuse Concepts (Phase 3)*. These concepts are all based on the use of the DCPP site (the 585 acres owned by Eureka Energy Company, and the 165 acres owned by PG&E). Therefore, implementation of the Proposed Project would not result in the development of or encroachment into an isolated area or area of open space.

6.5 Known Areas of Controversy and Unresolved Issues

Pursuant to State CEQA Guidelines Section 15123, subdivision (b)(2), an EIR shall contain a summary identifying areas of controversy known to the Lead Agency including issues raised by agencies and the public. The public has expressed concern about the potential hazards associated with the storage of radioactive materials at DCPP and the loss of electrical generation from closure of DCPP. These are not new concerns as DCPP has been transferring spent fuel to the on-site ISFSI since 2009, and the loss of electrical generation would occur with or without the Proposed Project, as PG&E has decided to retire DCPP and transition the facility to a "decommissioning" status. Information regarding the storage of radioactive materials is discussed in Section 4.10, *Hazardous and Radiological Materials*. The following summary represents areas of controversy identified during public scoping in late 2021, as well as unresolved issues.

- **DCPP Site Closure.** The decision to shut down the DCPP site and the loss of clean energy due to the closure of the plant is controversial. There is strong support as well as dissent for the decision to close the DCPP site due to concerns over radiological hazards, radiological waste management and storage, climate change, and clean energy production. The approval to close the DCPP was authorized by the CPUC in decision (D.) 18-01-022 in 2018 in response to PG&E's application (A.) 16-08-006 proposing to retire Diablo Canyon upon the expiration of its NRC licenses. However, as discussed in Section ES.1, per Senate Bill 846 adopted in September 2022 (more than a year after PG&E submitted the application to decommission DCPP to the County), PG&E is now pursuing, in parallel, a path to continue operations of DCPP for up to five additional years. As such, a delayed decommissioning alternative (Alternative 7) has been included in the EIR (see Section 5.4.7).
- **Radiological and Hazardous Waste Transport and Long-Term Storage.** The public expressed concern about the long-term storage of radiological waste and how it would be safeguarded from terrorism and natural disasters. There are concerns regarding health risks from transporting hazardous and radiological materials and the need to identify and describe the safest transportation, storage, and monitoring methods of these materials. Refer to Appendix G2 for more information.
- **CSLC Alternatives.** Section ES.5 describes two alternatives evaluated at the request of the CSLC: Alternative 2 (CSLC No Project Alternative) and Alternative 8 (CSLC Full Removal Alternative). Because CSLC has jurisdiction over all structures within offshore portions of State-owned sovereign land adjacent to the DCPP site, there is uncertainty over the future condition of Project components within the CSLC jurisdiction until CSLC has considered an application for a new lease or an amendment to the current CSLC lease PRC 9347.1.

Additional concerns were expressed during the scoping period for the EIR and are presented in Appendix B1, *Summary of Comments Received During Scoping Period*. However, none of these additional concerns were expressed in such quantity or detail to be considered particularly controversial.

7. Other Considerations (Phases 1 and 2)

In addition to the environmental review required pursuant to the California Environmental Quality Act (CEQA), a public agency may consider other information and policies in its decision-making process. This section presents information relevant to the California State Lands Commission (CSLC) in its consideration of Pacific Gas & Electric Company's (PG&E) application for a CSLC lease for the Proposed Project. In addition, topics relevant to the California Coastal Commission (CCC) such as sea-level rise are considered. To support CSLC's and CCC's review of the DCPP Decommissioning Project, this section addresses the following five issues:

- Climate Change and Sea-Level Rise
- Commercial Fishing
- Environmental Justice
- State Tide and Submerged Lands Possessing Significant Environmental Values
- Terrorism

The topics of Climate Change and Sea-Level Rise and Commercial Fishing are analyzed to reach CEQA significance conclusions to meet California Coastal Act and CSLC Public Trust Doctrine (right to fish) requirements, respectively. The remaining topics (Environmental Justice, State Tide and Submerged Lands Possessing Significant Environmental Values, and Terrorism) address other issues relevant to the regulatory agencies; these issues do not require CEQA significance conclusions.

7.1 Climate Change and Sea-Level Rise

7.1.1 Environmental Setting

Greenhouse gases (GHGs) play a critical role in the Earth's "radiation budget" by trapping a portion of the infrared radiation emitted from the Earth's surface, which would otherwise escape into space, and is referred to as the greenhouse effect.[62]

The most prominent GHGs contributing to this process include carbon dioxide, methane, and nitrous oxide. Certain refrigerants, including chlorofluorocarbons, hydrochlorofluorocarbons, and hydrofluorocarbons, also contribute to the greenhouse effect. The greenhouse effect keeps the Earth's atmosphere near the surface warmer than it would be otherwise and allows for successful habitation by humans and other life forms. Global climate change is the result of excess GHG emissions from human activities—including fossil fuel combustion, deforestation, and land use change—that trap more heat, resulting in mean global warming.

Recent environmental changes linked to climate change include rising temperatures, shrinking glaciers, thawing permafrost, a lengthened growing season, and shifts in plant and animal ranges (Bedsworth et al., 2018; US Global Change Research Program [USGCRP], 2018; Intergovernmental Panel on Climate Change [IPCC], 2021). Increased concentrations of GHGs in the Earth's atmosphere increase the absorption of radiation and further warm the lower atmosphere. This process increases evaporation rates and temperatures near the surface. This warming results in sea-level rise (SLR) through two main mechanisms. As water warms, water molecules expand and

[62] "Radiation budget" is the amount of energy the Earth receives from the sun in comparison to the amount of energy that is emitted back to outer space.

take up additional space, resulting in a larger volume of water. Warming also melts polar ice caps, resulting in rising sea levels.

In California, an assessment of climate change impacts predicts that temperatures will increase between 5.6 degrees Fahrenheit (°F) and 8.8°F by 2100 based on low and high global GHG emission scenarios (Bedsworth et al., 2018). Predictions of long-term negative environmental impacts in California include worsening of air quality problems; an increase in the frequency of heat waves; a reduction in water supply from the Sierra snowpack; SLR; an increase in wildfires; damage to marine and terrestrial ecosystems; and an increase in the incidence of infectious diseases, asthma, and other human health problems (Bedsworth et al., 2018).

California has an aggressive plan to reduce the state's contribution to climate change through reducing GHG emissions and addressing the effects of climate change. Assembly Bill 32 (AB 32) established a statewide goal to reduce emissions to 1990 levels by 2020 and Senate Bill (SB) 32 further reduces emissions to at least 40 percent below 1990 levels by 2030. To measure progress, the state has developed a series of GHG inventories. The transportation sector is the largest source of GHG emissions in the state, with direct emissions from vehicle tailpipes, off-road transportation sources, and intrastate aviation accounting for almost 40 percent of statewide emissions according to the latest inventory (California Air Resources Board [CARB], 2021). Emissions from the electric power sector make up 14 percent of statewide GHG emissions. Emissions in the electricity sector are primarily driven by natural gas generated electricity. SB 100 or "The 100 Percent Clean Energy Act of 2018" requires that at least 60 percent of California's electricity be renewable by 2030 and all retail electricity sold in California be renewable by 2045. SB 100 requires the California Energy Commission (CEC), California Public Utilities Commission, and CARB to use programs under existing laws to achieve 100 percent clean electricity and issue a joint policy report on SB 100 by 2021 and every four years thereafter. The 2021 Report suggests SB 100 is technically achievable through multiple pathways (CEC, 2021).

The state is also addressing climate change through promoting resiliency and adaptation. SB 379 (California Legislative Information, 2015) requires cities and counties to address climate adaptation and vulnerability in their safety elements. *The Integrated Climate Change Adaptation Planning in San Luis Obispo County Report* (2010) was developed by the Geos Institute, in partnership with the Local Government Commission. Developed through a series of workshops in San Luis Obispo County, the report identifies resources and populations that are most vulnerable to climate change and includes initial adaptation strategies. *The Integrated Climate Change Adaptation Planning in San Luis Obispo County Report* identifies the DCPP as being directly exposed to the impacts of coastal storms, flooding, and erosion exacerbated by SLR, but also points to the heavy fortification of the infrastructure with seawalls.

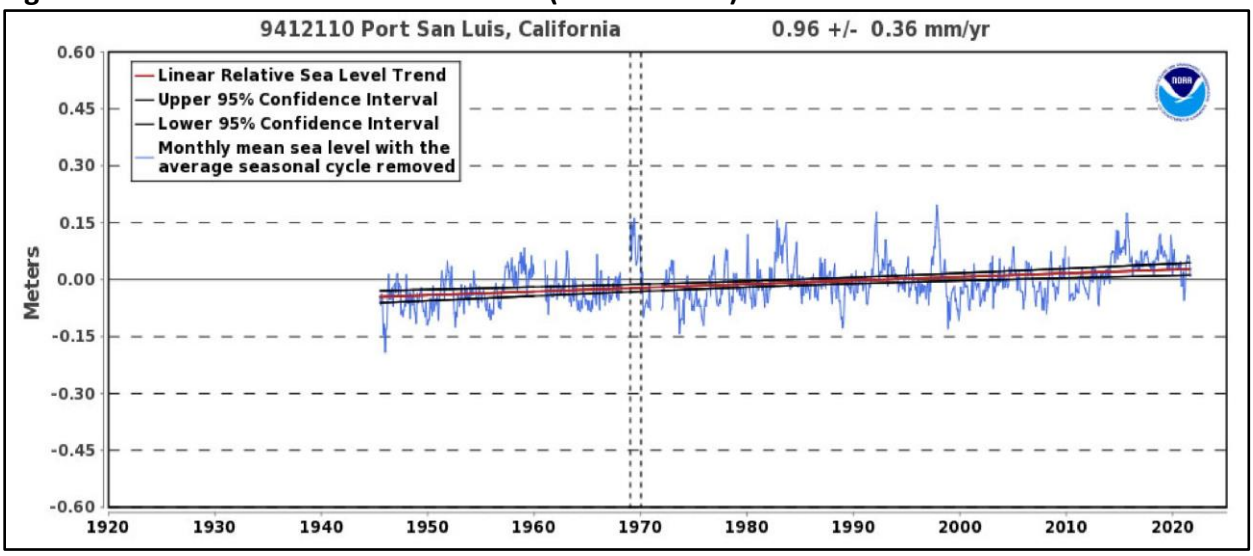
The County of Santa Barbara recently (2020) launched the *One Climate Initiative* (County of Santa Barbara, 2020) to engage the public on a broad range of efforts to reduce GHG emissions and adapt to climate change. The *One Climate Initiative* includes a Climate Vulnerability Assessment and identifies the larger rail system in the County to be vulnerable to the effects of increased storms causing mudslides and flooding along areas of tracks with no alternative routes, which could disrupt rail movements system wide.

Sea-Level Rise

Climate change impacts, including sea-level rise (SLR), are already being felt in our oceans and along the California coast. Climate change and SLR accelerate and exacerbate natural coastal processes, such as the intensity and frequency of storms, erosion, and sediment transport, and currents, wave action, and ocean chemistry. SLR is driven by the melting of polar ice caps and land ice, as well as thermal expansion of sea water. Accelerating rates of SLR are attributed to increasing global temperatures due to climate change. The combination of these conditions will likely result in increased wave runup, storm surge, and flooding in coastal areas. Climate change and SLR will also affect coastal and riverine areas by changing erosion and sedimentation rates. Beaches, coastal landscapes, and sea cliffs exposed to increased wave force, run up, and higher water levels could potentially erode more quickly than before.

A trendline analysis of yearly mean sea level (MSL) data recorded at Port San Luis from 1945 to 2020, shown in Figure 7-1, indicates that the upward trend in MSL is approximately 0.003 foot per year (0.96 millimeter per year), which equates to 0.31 foot in 100 years (NOAA, 2021).

Figure 7-1. Recent Mean Sea Level Trend (Port San Luis)



Source: NOAA, 2021.
Acronyms: mm/yr: millimeters per year

The CCC originally released their SLR policy guidance in August 2015 and then released a science update in November 2018 based on the Ocean Protection Council's (OPC's) 2018 updated *State of California Sea-Level Rise Guidance* (OPC, 2018). The CCC *Sea Level Rise Policy Guidance: Interpretive Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits* document outlines how to address SLR in new and updated Local Coastal Programs and Coastal Development Permits according to the policies of the California Coastal Act (CCC, 2018). While the OPC evaluated multiple emission scenarios, the CCC recommendations only include the high emission scenarios. The projected SLR estimates for both the high and multiple emission scenarios are shown in Table 7-1.

Table 7-1. Projected Sea-Level Rise (in Feet) for Port San Luis

	Probabilistic Projections (in feet)		H++ Scenario *Single Scenario
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	Upper limit of "likely range" (~17% probability SLR exceeds…)	*1-in-200 chance (0.5% probability SLR exceeds…)*	*Single scenario (no associated probability)*
2030	0.5	0.7	1.0
2040	0.7	1.2	1.6
2050	1.0	1.8	2.6
2060	1.3	2.5	3.7
2070	1.7	3.3	5.0
2080	2.1	4.3	6.4
2090	2.6	5.3	8.0
2100	3.1	6.7	9.9
2110*	3.2	7.0	11.6
2120	3.7	8.2	13.8
2130	4.3	9.6	16.2
2140	4.8	11.1	18.7
2150	5.4	12.6	21.5

Source: Adapted from OPC, 2018.

* "Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates […]. Use of 2110 projections should be done with caution and acknowledgment of increased uncertainty around these projections." (OPC, 2018)

7.1.2 Environmental Considerations

Impact SLR-1: Contribute to Sea Level Rise Effects (Class III: Less than Significant)

Climate change has the potential to affect the Proposed Project through SLR and exacerbated coastal erosion and flooding due to climate change. In addition, the Proposed Project has the potential to affect coastal processes, which influence the larger effects of SLR.

DCPP Project Site

As discussed in Section 7.1.1, SLR exacerbating the effects of coastal storms and erosion is the biggest climate threat at the DCPP site. As noted above, the CCC provides standard SLR projections specific to California coastal regions. While the CCC *Sea Level Rise Policy Guidance* (CCC, 2018) is advisory, the CCC encourages projects to be consistent with the guidance to ensure that projects consider SLR in planning, design, and engineering throughout the life of the project and that projects pursue alternatives that minimize risks to the project and to coastal resources. In addition, the CCC bases its SLR projections on the "Best Available SLR Science" and establishes one set of SLR projections for consistent planning.

With the exception of Zone 4 (see Figure 2-12) that includes the Discharge Structure, Intake Structure, Marina, and Breakwaters, the DCPP site is set back from the coast on average 60 feet

from the cliffs with elevations ranging from 60 to 150 above mean sea level (MSL) for the lower level (power block is at 85 feet above MSL) and the upper level at elevations around 310 feet above MSL (for the Independent Spent Fuel Storage Installation [ISFSI]); all well above the projected SLR presented in Table 7-1. Therefore, direct flooding of the main DCPP site attributed to SLR would not occur. In addition, because they are set back from the coast and set higher than projected SLR, structures, including infrastructure that is left underground (3 feet or greater), in the upland area would not be affected by SLR-exacerbated erosion. Decommissioning and demolishing structures in the upland portions of DCPP site would have no effect on SLR as most structures are outside of the immediate coastal area and do not affect coastal processes.

While the upland area of the DCPP site is unlikely to be impacted by SLR, the Discharge Structure, Intake Structure, Marina (and boat dock), and Breakwaters are located along the coast and may be affected by SLR. Under the Proposed Project, the Intake Structure, Marina (and boat dock), and Breakwaters would not be demolished and would remain in place. The openings of the Intake Structure would be sealed, and the deck cleared.

The Intake Structure, Marina, and the surrounding road elevations are approximately 20 to 25 feet North American Vertical Datum of 1988 (NAVD88). The elevation of the Breakwaters is approximately 18 to 20 feet NAVD88. Given a local mean higher high water (MHHW) of approximately 5.3 feet NAVD88, and a 0.5 percent probability of SLR exceeding 6.7 feet by 2100, the resulting 2100 MHHW would be approximately 12 feet NAVD88, which is below the pier, roadway, and crest elevations of the Breakwaters. However, with SLR and the smaller freeboard, there is a greater chance of waves overtopping the Breakwaters, resulting in the Breakwaters being less effective and larger waves forming within the Marina basin. Such waves could lead to more localized effects of coastal processes, exposing the closed Intake Structure and Marina (and boat dock) to greater effects from erosion and SLR. While larger waves could form in the cove, the Breakwater would continue to provide sufficient protection from damaging waves and the existing hardened shoreline directly around these structures would reduce the effects of erosion on these built structures.

In addition to direct effects from flooding, SLR may increase the speed of cliff and shoreline erosion. As discussed in Section 4.7.1, under *Littoral Processes*, the cliffs in the area of the DCPP site consist of resistant headlands and sea stacks.[63, 64] The sea cliffs range from 50 degrees to vertical and consist of rock layers, including resistant zeolitized tuff (hard rock made from compressed volcanic ash) and marine sandstone, siltstone, and dolomite. Sea cliff erosion (and associated shoreline retreat) of the bedrock shoreline in the Project area is strongly controlled by the wave erosion process, and coves and pocket beaches have formed where waves have eroded the softer shale and siltstone rock, leaving resistant rock buttresses and headlands (William Lettis & Associates, Inc., 2004). As further discussed in Section 4.8.1, under *Littoral Processes*, based on geological processes alone, a maximum sea cliff retreat over the next 75-year period is anticipated to average 3 meters (10 feet) along the cliffs at the DCPP site. The maximum retreat will be localized along the weaker rock beds and will form narrow slots and gullies in the sea cliff on the order of 1 to 5 meters wide, while other areas will experience lesser

[63] Headlands are areas of the seaside cliffs that are more resistant to erosion than the areas around them, leaving a portion of rocky land projecting into the sea as portions of the cliffs to either side erode.

[64] Sea stacks are columns of rocky land left standing in the sea after the erosion of the cliffs around them.

magnitudes of retreat. SLR has the potential to exacerbate erosion in the weaker areas and accelerate retreat.

The uplands portion of the DCPP site and roadway are set back on average 60 feet from the cliffs and would therefore not be affected by cliff or shoreline erosion exacerbated by SLR. However, the Discharge Structure is set directly within the cliffs, and the Intake Structure and Marina are set along the shoreline southeast of the cliffs.

The Discharge Structure is currently fortified by seawalls. Removing the Discharge Structure and these seawalls as part of the Proposed Project would leave a gap within the existing cliff area that may exacerbate retreat due to SLR in the immediate area by removing a hardened structure that currently provides protection to the cliff immediately behind the structure. As designed, removing the structure would leave a void in the bluff, which would be restored through installation of layers of different materials that blend with the natural stratigraphy of the bluff (see Figures 2-30 and 2-31). As detailed in Table 2-5, this void would be filled with approximately 18,741 cubic yards of material (e.g., 1-ton rocks, ¼-ton rocks, gravel, and topsoil). Rocks would be placed within the void from either a land-based crane or barge-mounted crane using rock tongs specifically designed to place individual or small groups of boulders. In addition, quarry rocks would be placed on either side of where the previous Discharge Structure was located within the intertidal zone to augment the rocky intertidal habitat (see Figure 2-28). The placed rock would provide bluff erosion protection as well as new subtidal and intertidal habitat.

Structures in the coastal zone (e.g., the Intake Structure, Marina, and Breakwaters) potentially impede natural sediment flow, which may worsen the effects of erosion due to SLR. However, there would be no change to existing conditions as these structures would remain in place.

Railyards

The railyards are not located in the direct coastal zone and therefore would not be affected by SLR or coastal erosion. However, climate change is resulting in greater rates of precipitation in shorter amounts of time, which exacerbates the effects of flooding. As discussed in Section 4.11.1, under *Flooding*, the SMVR-SB site is not subject to flooding, but the PBR site is located in a Special Flood Hazard Area Zone AE. Zone AE is an area with one percent annual chance of base (or 100-year) flood and therefore could be subject to inundation from flooding, which could be exacerbated by climate change. This could result in an increased risk of pollutant release attributed to climate change. As discussed in Section 2.3.4, *Modifications and Operations at Rail Facilities*, any non-radiological or non-hazardous waste temporarily stored at the PBR site would be kept at least 1 foot above the projected elevation of the 100-year flood to reduce the risk of secondary exposure. In addition, as identified in Santa Barbara's vulnerability assessment, rail as fixed infrastructure is susceptible to regional disruptions from flooding events including mudslides, which could be exacerbated by climate change.

Conclusion

SLR and coastal erosion may worsen the effect of coastal processes and erosion at portions of the DCPP site, specifically at the Intake Structure, Marina, and Breakwater. However, impacts are expected to be limited due to fortification of the shoreline. Removal of the Discharge Structure

could, however, result in cliff erosion, which may be further exacerbated by SLR. Placement of quarry rock to fill the entire void would reduce any potential impacts.

Increased flooding due to climate change has the potential to affect rail operations at PBR and the rail system as a whole. Rail transport of materials and hazardous waste is highly regulated, and PG&E and the rail lines would comply with all transport regulations. Compliance would manage these risks and ensure safe operations.

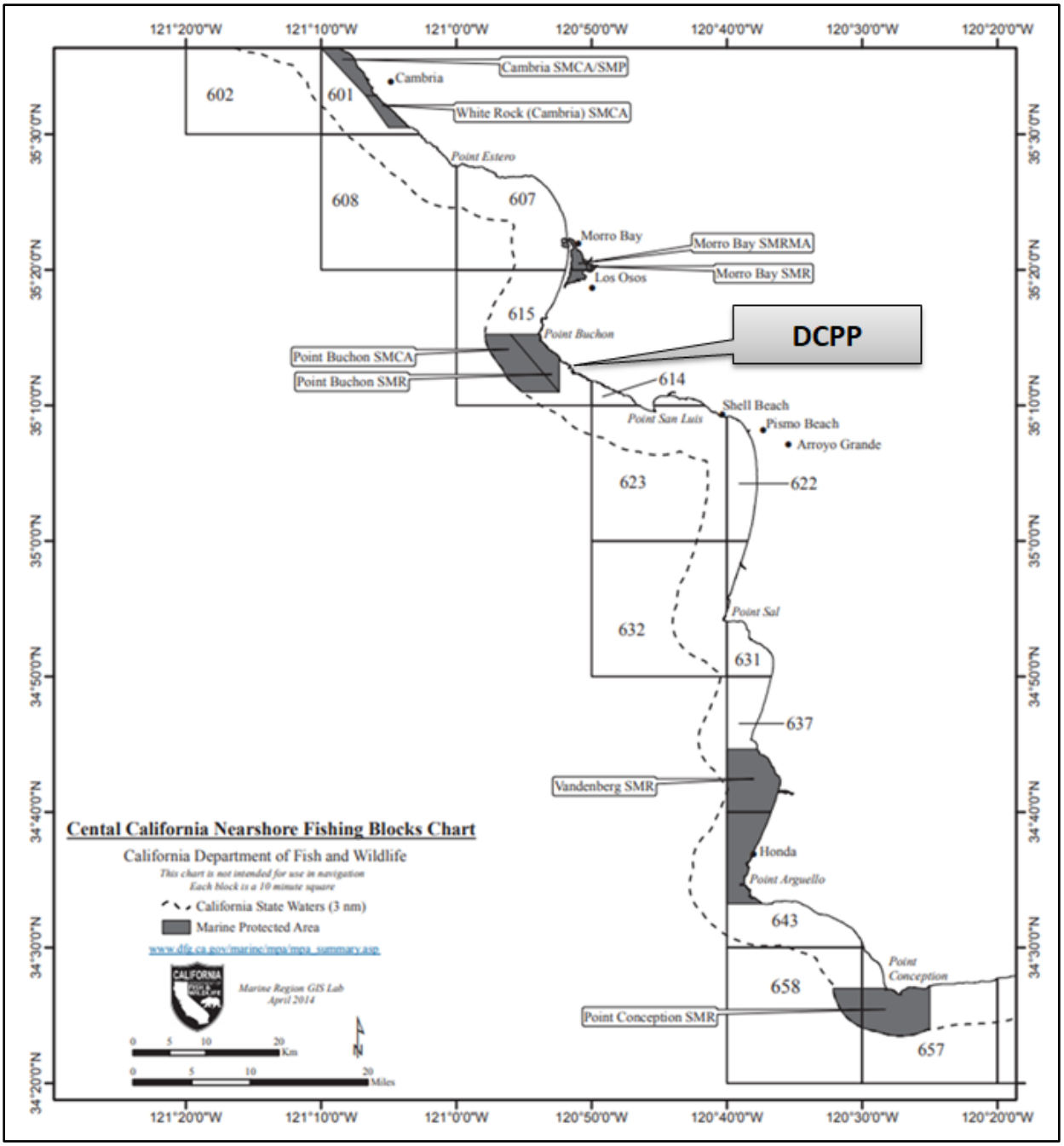
7.2 Commercial Fishing

7.2.1 Environmental Setting

Commercial fishing is an important part of social and economic activities in central California. Along the California coast several gear types and methods are used to target a wide variety of fish and invertebrate species such as hook-and-line, trap, trawl, crab pot, seine, troll, and diving. The following section describes commercial fishing in the vicinity of the DCPP site; the railyards identified for the Proposed Project do not involve any in-water or barge vessel transit. Information for commercial fisheries was provided by the California Department of Fish and Wildlife (CDFW) and includes commercial catch data for blocks in the vicinity of the DCPP site (Figure 7-2). This includes data from nearshore blocks adjacent to the DCPP from 2016 through 2020. Note that data were redacted per CDFW confidentiality policies; these analyses were conducted using the redacted catch block data provided by CDFW.

The catch block data analyzed in this EIR was collected from Cambria to Point Conception (Figure 7-2). For this analysis, the catch blocks were separated into two segments; the first segment being the DCPP area which includes blocks 614 and 615, and the second segment includes all the other nearshore blocks from Cambria to Point Conception (blocks 601, 602, 607, 608, 622, 623, 631, 632, 637, 643, 657, and 658). Note that the DCPP falls within block 615, which also includes the Point Buchon State Marine Reserve (SMR) and Point Buchon State Marine Conservation Area (SMCA). It is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource within the Point Buchon SMR, and only the commercial and recreational take of salmon and albacore is allowed within the Point Buchon SMCA. In addition, there is a US Coast Guard established restricted area that includes all waters of the Pacific Ocean within 2,000 yards of the DCPP that would further restrict commercial or recreational fishing (see Figure 4.16-9, DCPP Site Security Exclusion Zone).

Figure 7-2. CDFW Central California Nearshore Fishing Blocks



Source: CDFW, 2022.

The top nine fisheries, which could include individual species or a group of like-species (i.e., complex), by weight from 2016 through 2020 for CDFW catch blocks encompassing and adjacent to the DCPP site are shown in Table 7-2. Market squid (*Doryteuthis opalescens*) was the largest fishery outside of the DCPP area blocks, representing 91.3 percent of the total weight. Squid was followed by crabs (includes Dungeness [*Cancer magister*] and other crab species) at 5 percent, rockfish complex (includes all *Sebastes* species, greenlings, and lingcod [*Ophiodon elongatus*]) at 1.7 percent, and Chinook salmon (*Oncorhynchus tshawytscha*) at 1.4 percent. The flatfish complex which includes California halibut (*Paralichthys californicus*) and other flatfish, spiny lobster

(*Panulirus interruptus*), white seabass (*Atractoscion nobilis*), red sea urchins (*Strongylocentrotus franciscanus*), and Kellet's whelk (*Kelletia kelletii*), each comprised 0.4 percent or less of the total weight for these blocks (Table 7-2). Within the DCPP area blocks (blocks 614 and 615), rockfish was the largest fishery, comprising 66.5 percent of the total weight, followed by Chinook salmon at 29.9 percent, flatfish at 1.7 percent, crabs at 1.6 percent, and white seabass at 0.2 percent (Table 7-2).

Separately, the top nine fisheries by value from 2016 through 2020 for CDFW catch blocks encompassing and adjacent to the DCPP site are shown in Table 7-3. Similar to fishery by weight, market squid and crabs ranked first and second comprising 53.1 and 19.4 percent of the total value for those blocks outside of the DCPP area, respectively. They were followed by Chinook salmon at 12.8 percent, rockfish at 10.7 percent, and flatfish at 3.0 percent of the total value. Spiny lobster, white seabass, red sea urchins, and Kellet's whelk each comprised 0.5 percent or less of the value for these blocks (Table 7-3). Within the DCPP area blocks (blocks 614 and 615), rockfish ranked first in value at 62.7 percent, followed by Chinook salmon at 35.1 percent, flatfish at 1.6 percent, crabs at 0.4 percent, and white seabass at 0.2 percent of the total value (Table 7-3).

Table 7-2. Fishery Weight by Nearshore Block (2016-2020)

	Blocks 601, 602, 607, 608, 622, 623, 631, 632, 637, 643, 657, 658			Blocks 614 and 615 (DCPP Area)		
Fishery	Weight (pounds)	Proportion	Rank	Weight (pounds)	Proportion	Rank
Market Squid	7,061,498	91.3%	1	-	-	-
Crab Complex [1]	383,867	5.0%	2	5,533	1.6%	4
Rockfish Complex [1]	134,943	1.7%	3	229,429	66.5%	1
Chinook Salmon	106,451	1.4%	4	103,072	29.9%	2
Flatfish Complex [1]	33,288	0.4%	5	5,988	1.7%	3
White Seabass	5,479	0.1%	6	825	0.2%	5
Red Sea Urchin	3,067	0.04%	7	-	-	-
Spiny Lobster	1,520	0.02%	8	-	-	-
Kellet's Whelk	1,298	0.02%	9	-	-	-
Total	7,731,410			344,848		

Source: CDFW, 2022 – Based on redacted data per CDFW confidentiality polices.

[1] Rockfish Complex includes all *Sebastes* species, greenlings, and lingcod. Flatfish Complex includes California halibut and other flatfish species. Crab Complex includes Dungeness and other crab species.

Table 7-3. Fishery Value by Nearshore Block (2016-2020)

	Blocks 601, 602, 607, 608, 622, 623, 631, 632, 637, 643, 657, 658			Blocks 614 and 615 (DCPP Project Area)		
Fishery	Value (dollars)	Proportion	Rank	Value (dollars)	Proportion	Rank
Market Squid	$3,525,537	53.1%	1	-	-	-
Crab Complex [1]	$1,288,591	19.4%	2	$8,337	0.4%	4
Chinook Salmon	$846,498	12.8%	3	$756,972	35.1%	2
Rockfish Complex [1]	$712,234	10.7%	4	$1,352,479	62.7%	1
Flatfish Complex [1]	$195,976	3.0%	5	$35,023	1.6%	3

Table 7-3. Fishery Value by Nearshore Block (2016-2020)

Fishery	Blocks 601, 602, 607, 608, 622, 623, 631, 632, 637, 643, 657, 658			Blocks 614 and 615 (DCPP Project Area)		
	Value (dollars)	Proportion	Rank	Value (dollars)	Proportion	Rank
Spiny Lobster	$31,967	0.5%	6	-	-	-
White Seabass	$29,194	0.4%	7	$4,401	0.2%	5
Red Sea Urchin	$6,602	0.1%	8	-	-	-
Kellet's Whelk	$2,109	0.0%	9	-	-	-
Total	$6,638,709			$2,157,212		

Source: CDFW, 2022 – Based on redacted data per CDFW confidentiality polices.

[1] Rockfish Complex includes all *Sebastes* species, greenlings, and lingcod. Flatfish Complex includes California halibut and other flatfish species. Crab Complex includes Dungeness and other crab species.

7.2.2 Environmental Considerations

Impact CF-1: Result in the loss of commercial fishing opportunities (Class III: Less than Significant).

Commercial fishing in the vicinity of the DCPP site is limited as the US Coast Guard has established a restricted area that includes all waters of the Pacific Ocean within 2,000 yards (1 nautical mile) of the DCPP site (see Figure 4.16-9, *DCPP Site Security Exclusion Zone*). In addition, the Point Buchon SMR and Point Buchon SMCA are located approximately 1 mile offshore and upcoast of the DCPP site, where it is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource within the Point Buchon SMR; and only the commercial and recreational take of salmon and albacore is allowed within the Point Buchon SMCA. Due to these existing restrictions, decommissioning activities would not affect commercial fishing in the general vicinity of the DCPP site.

However, decommissioning activities would increase vessel traffic as waste would be exported from the DCPP site to Oregon by barge during both Phases 1 and 2. Additionally, gravel and rock would be imported from the Port of Long Beach and Santa Catalina Island to support the Discharge Structure removal and restoration activities. This increased vessel traffic may result in potential impacts to existing vessel traffic, both commercial and recreational, as well as ecological receptors (see Section 4.16, *Transportation* and Section 4.4, *Biological Resources-Marine*). While commercial vessel operators, such as commercial fishing vessels, possess advanced communication and navigation capabilities making them adaptable to changing environments, their need to potentially adjust course due to Project-related marine vessel traffic would be an inconvenience, could result in temporarily avoiding the DCPP area or travel route, and/or temporarily relocate fishing efforts. Any possible interaction would take place in a relatively small area as barges would generally travel approximately 50 miles directly offshore from the DCPP, while most of the commercial fishing activity remains close to shore (see Figure 4.16-12, *Fishing Vessel Traffic between the Port of Oakland and Port of Los Angeles*). To comply with existing marine vessel safety regulations (33 CFR Part 160 - Ports and Waterways Safety), the US Coast Guard must be notified regarding any vessel movement connected with the Project's activities (see Section 4.16, *Transportation*). The Applicant and/or its contractor shall also be responsible for providing a Local Notice to Mariners (per US Coast Guard requirements), which may include information such as

the type of vessels, activity, working locations, location of moored vessels, likely transit routes, and approximate dates, durations, and working hours. Therefore, given the public notifications, limited number of barge trips (each tug pulls 2 barges equating to 28 roundtrips), duration (2030-2033), and anticipated barge routes (see Figures 4.16-7 and 4.16-8), these impacts to commercial fishing vessels would be considered negligible and less than significant.

By end of 2029 when all spent nuclear fuel (SNF) is anticipated to be transferred to the ISFSI, the existing security exclusion zone may be reduced or eliminated; however, such a determination would be made by the US Coast Guard and US Department of Transportation. Any reduction or the elimination of the exclusion zone would be considered a benefit to commercial fishing by making previously closed areas open to commercial fishing.

7.3 Environmental Justice

Environmental justice is defined by California law as "the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies" (Gov. Code, § 65040.12, subd. (e)).

In 2016, Senate Bill (SB) 1000 (Leyva, Chapter 587, Statutes of 2016) was enacted to require local governments with disadvantaged communities, as defined in statute, to incorporate environmental justice into their general plans when two or more general plan elements (sections) are updated. The Governor's Office of Planning and Research (the lead State agency on planning issues) worked with State agencies, local governments, and many partners to update the General Plan Guidelines in 2020 to include guidance for communities on environmental justice (OPR, 2020).

The CSLC adopted an Environmental Justice Policy in December 2018 to ensure that environmental justice is an essential consideration in the CSLC's processes, decisions, and programs (CSLC, 2021). Through its policy, the CSLC reaffirms its commitment to an informed and open process in which all people are treated equitably and with dignity, and in which its decisions are tempered by environmental justice considerations. Among other goals, the policy commits the CSLC to, "Strive to minimize additional burdens on and increase benefits to marginalized and disadvantaged communities resulting from a proposed project or lease" (CSLC, 2021).

In 2019, the CCC adopted an Environmental Justice Policy to provide guidance for Commissioners, staff, and the public on how the CCC will consider environmental justice in coastal development permits. The CCC's Environmental Justice Policy reaffirms the agency's commitment "to identifying and eliminating barriers, including those that unlawfully privatize public spaces, in order to provide for those who may be otherwise deterred from going to the beach or coastal zone" (CCC, 2019). The CCC also recognizes that coastal areas contain cultural significance for tribal communities, and through its Environmental Justice Policy, the CCC "commits to regular and meaningful partnership [with tribes] to ensure that tribes are valued and respected contributors to the management of California's coast" (CCC, 2019).

In keeping with its commitment to environmental sustainability and access to all, California was one of the first states to codify the concept of environmental justice in its statutes. Beyond the

fair treatment principles described in statute, the CSLC believes that it is critical to include individuals who are disproportionately affected by a Proposed Project's effects in the decision-making process. The goal is that, through equal access to the decision-making process, everyone has equal protection from environmental and health hazards and can live, learn, play, and work in a healthy environment.

Consistent with the CSLC's recent 2019 power plant decommissioning EIR prepared for the San Onofre Nuclear Generating Station, the following presents an analysis of environmental justice for the DCPP Decommissioning Project using a similar approach.

7.3.1 Environmental Setting

Geographic Extent of Potential Environmental Justice Impacts

For environmental justice concerns, a 5--mile radius surrounding each of the three Project sites was used (DCPP, PBR, and SMVR-SB sites). This 5--mile radius was selected because most short- and long-term direct and indirect impacts associated with the Proposed Project are reasonably expected to occur within this area. Figures 7-3 through 7-5 present the location of each Project site and the 2019 US Census Tract boundaries contained within a 5-mile radius. At the time this analysis was prepared, 2020 Census Data was not yet available for all the statistical categories presented in Tables 7-4 through 7-12.

US Census Bureau Statistics

Tables 7-4 through 7-12 present income, employment, and race data of the regional and 5-mile radius area of the three Project sites (DCPP, PBR, and SMVR-SB sites). The data presented in these tables is based on the most recently available information from the US Census Bureau.

Tables 7-4 through 7-12 utilize 2014-2019 American Community Survey (ACS) estimates. Because ACS estimates come from a sample population, a certain level of variability is associated with the estimates. Supporting documentation on ACS data accuracy and statistical testing can be found on the ACS website in the Data and Documentation section available here: https://www.census.gov/programs-surveys/acs.html. For purposes of this analysis, US Census ACS data was utilized to provide current data, consistency between the data used to identify minority and low-income populations, and consistency between the different geographies presented. For these reasons, US Census ACS data is considered best available for representing the demographic makeup of affected communities in the Project area. Use of published US Census ACS data estimates is commonly used by CSLC and other CEQA Lead Agencies in compliance with California Government Code Section 65040.12 and Public Resources Code Section 72000.

The following discusses notable population, income, and race statistics for each of the three Project sites, as shown in Tables 7-4 through 7-12.

- **DCPP Site**: As shown in Tables 7-4 and 7-5, neither of the Census Tracts contain a low-income population or minority population substantially greater than that of either San Luis Obispo County or California as a whole. As shown in Table 7-6, the primary industry of employment within Census Tract 116 is education and health care services, while the primary industry of

employment within Census Tract 130 is entertainment, recreation and food services, with both the retail trade and agricultural/mining sectors also being primary employers.

- **PBR Site**: As shown in Table 7-7, Census Tract 120 contains a low-income population substantially greater than both San Luis Obispo County and California as a whole. As shown in Table 7-8, no tracts contain a minority population substantially greater than that of either San Luis Obispo County or California as a whole. As shown in Table 7-9, the primary industry of employment within Census Tract 120 is education and health care services.
- **SMVR-SB Site**: As shown in Table 7-10, Census Tracts 21.03, 23.03, 23.04, 24.02, 24.03, 24.04, and 25.02 all contain a low-income population substantially greater than both Santa Barbara County and California as a whole. As shown in Table 7-11, Census Tracts 23.06, 25.02, and 26.06 contain a minority population greater than the Santa Barbara County overall minority percentage. As shown in Table 7-12, the primary industry of employment within low-income tracts is agriculture.

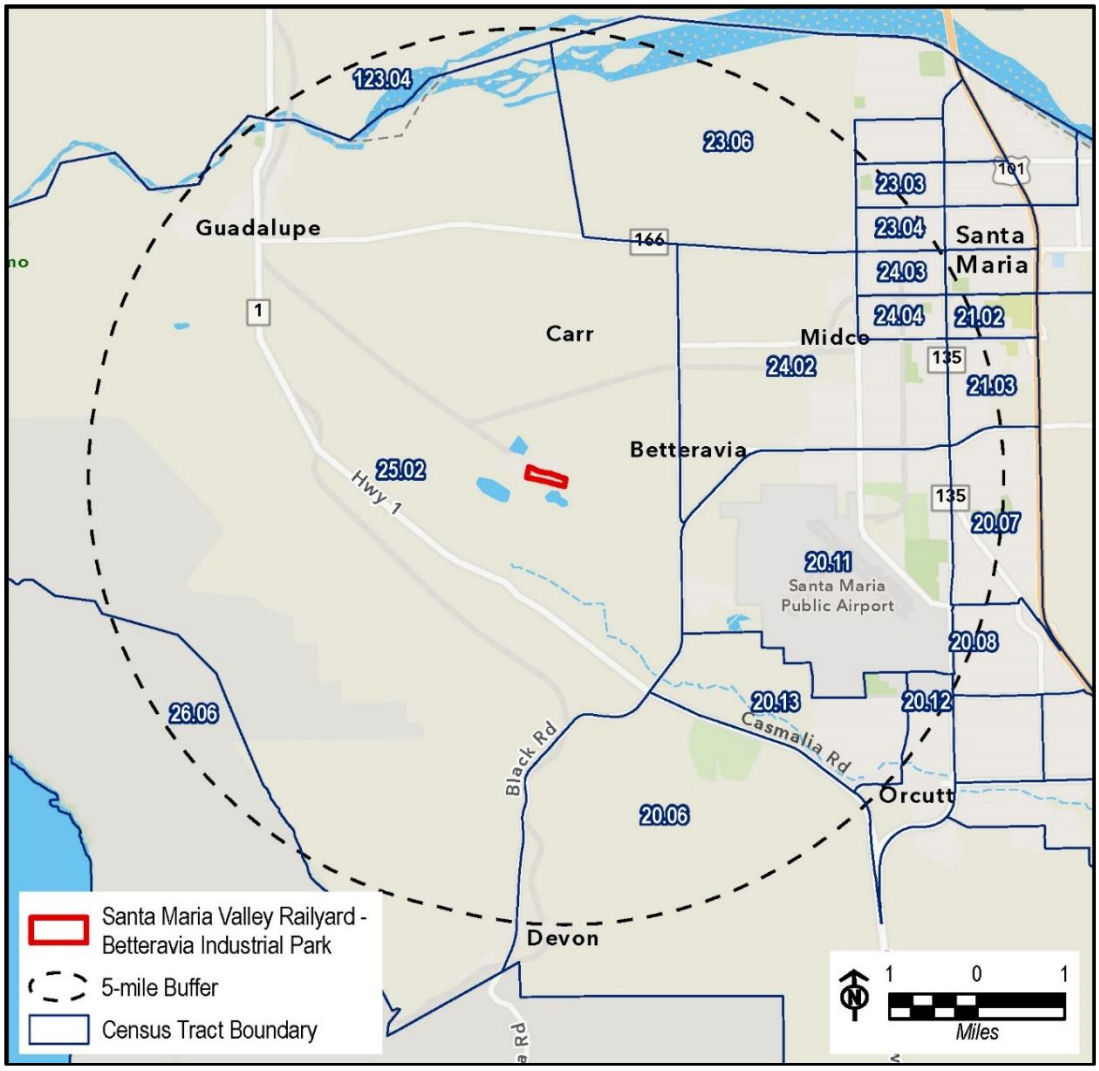
Figure 7-3. DCPP 5-Mile Radius, Census Tracts

Source: PG&E, 2021; US Census, 2019.

Figure 7-4. PBR 5-Mile Radius, Census Tracts

Source: PG&E, 2021; US Census, 2019.

Figure 7-5. SMVR-SB 5-Mile Radius, Census Tracts



Source: PG&E, 2021; US Census, 2019.

Table 7-4. US Census Income and Population Statistics for California, San Luis Obispo County, and DCPP 5-Mile Radius

Geography	Total Population	Median Household Income	Low-Income Population[1] (Percent of Total)
California	39,283,497	$106,916	13.4%
San Luis Obispo County	282,165	$96,196	12.5%
Census Tract 116	3,908	$173,412	5.1%
Census Tract 130	2,741	$100,537	4.9%

Source: US Census, 2021.
[1] Represents the population identified as "Income in the past 12 months below poverty level."

Table 7-5. US Census Race Statistics for California, San Luis Obispo County, and DCPP 5-Mile Radius

Geography	Hispanic or Latino[1] (Percent of Total Population)	Alone (Percent of Total Population)				
		White	Black	American Indian	Asian	Other/Mix
California	40.3%	59.7%	5.8%	0.8%	14.5%	19.2%
San Luis Obispo County	14.5%	85.5%	1.9%	0.9%	3.6%	8.1%
Census Tract 116	8.1%	91.9%	0.0%	0.0%	3.5%	4.6%
Census Tract 130	4.8%	95.2%	0.2%	0.4%	4.1%	0.1%

Source: US Census, 2019.
[1] Represents all population not identified as another race "Alone" (White Alone, Black Alone, etc.)

Table 7-6. US Census Employment Statistics for California, San Luis Obispo County, and DCPP 5-Mile Radius

Geography	Employment by Industry (Percentage of Total Workforce)												
	Agriculture, Forestry, Fishing and Hunting, Mining	Construction	Manufacturing	Wholesale Trade	Retail Trade	Transportation and Warehousing, and Utilities	Information	Finance and Insurance, and Real Estate and Rental and Leasing	Professional, Scientific, and Management, and Administrative and Waste Management Services	Educational Services and Health Care and Social Assistance	Arts, Entertainment, and Recreation, and Accommodation and Food Services	Other Services, except Public Administration	Public Administration
California	2.2%	6.3%	9.1%	2.8%	10.5%	5.3%	2.9%	6.0%	13.7%	21.0%	10.4%	5.2%	4.4%
San Luis Obispo County	3.2%	8.1%	7.1%	2.1%	11.4%	4.4%	1.6%	4.7%	10.8%	23.1%	12.8%	5.1%	5.5%
Census Tract 116	2.2%	9.5%	8.0%	3.1%	9.7%	4.0%	0.0%	13.1%	11.5%	24.9%	9.1%	3.1%	1.8%
Census Tract 130	16.5%	10.8%	2.2%	1.9%	16.8%	2.0%	0.0%	4.0%	9.0%	13.1%	17.9%	3.4%	2.3%

Source: US Census, 2019.

Table 7-7. US Census Income and Population Statistics for California, San Luis Obispo County, and PBR 5-Mile Radius

Geography	Total Population	Median Household Income	Low-Income Population[1] (Percent of Total)
California	39,283,497	$106,916	13.4%
San Luis Obispo County	282,165	$96,196	12.5%
Census Tract 115.03	3,375	$134,776	3.8%
Census Tract 116	3,908	$173,412	5.1%
Census Tract 117.01	4,432	$111,821	9.1%
Census Tract 117.04	3,729	$123,139	7.4%
Census Tract 118	7,469	$118,148	4.8%
Census Tract 119.01	3,270	$92,144	5.7%
Census Tract 119.02	8,589	$86,133	7.3%
Census Tract 120	7,700	$90,022	17.6%
Census Tract 121.02	5,835	$76,602	8.3%
Census Tract 122	7,033	$81,002	12.9%
Census Tract 123.02	5,686	$146,577	10.1%
Census Tract 123.04	10,975	$113,717	4.4%

Source: US Census, 2019.
N/A Data Unavailable from US Census
[1] Represents the population identified as "Income in the past 12 months below poverty level."

Table 7-8. US Census Race Statistics for California, San Luis Obispo County, and PBR 5-Mile Radius

Geography	Hispanic or Latino[1] (Percent of Total Population)	Alone (Percent of Total Population)				
		White	Black	American Indian	Asian	Other/Mix
California	40.3%	59.7%	5.8%	0.8%	14.5%	19.2%
San Luis Obispo County	14.5%	85.5%	1.9%	0.9%	3.6%	8.1%
Census Tract 115.03	11.5%	88.5%	1.7%	0.3%	3.6%	5.8%
Census Tract 116	8.1%	91.9%	0.0%	0.0%	3.5%	4.6%
Census Tract 117.01	14.2%	85.8%	4.5%	0.0%	2.5%	7.2%
Census Tract 117.04	9.0%	91.0%	0.8%	0.7%	0.9%	6.6%
Census Tract 118	7.6%	92.4%	0.1%	0.5%	3.0%	4.0%
Census Tract 119.01	11.7%	88.3%	0.0%	0.0%	3.2%	8.5%
Census Tract 119.02	21.8%	78.2%	1.9%	3.1%	5.4%	11.3%
Census Tract 120	18.7%	81.3%	2.2%	0.2%	1.6%	14.6%
Census Tract 121.02	21.6%	78.4%	1.6%	1.1%	7.0%	11.8%
Census Tract 122	21.6%	78.4%	1.1%	1.2%	6.8%	12.6%
Census Tract 123.02	6.6%	93.4%	1.8%	0.3%	1.3%	3.2%
Census Tract 123.04	16.2%	83.8%	0.3%	1.2%	2.3%	12.4%

Source: US Census, 2019.

Table 7-9. US Census Employment Statistics for California, San Luis Obispo County, and PBR 5-Mile Radius

Geography	Employment by Industry (Percentage of Total Workforce)												
	Agriculture, Forestry, Fishing and Hunting, Mining	Construction	Manufacturing	Wholesale Trade	Retail Trade	Transportation and Warehousing, and Utilities	Information	Finance and Insurance, and Real Estate and Rental and Leasing	Professional, Scientific, and Management, and Administrative and Waste Management Services	Educational Services and Health Care and Social Assistance	Arts, Entertainment, and Recreation, and Accommodation and Food Services	Other Services, except Public Administration	Public Administration
California	2.2%	6.3%	9.1%	2.8%	10.5%	5.3%	2.9%	6.0%	13.7%	21.0%	10.4%	5.2%	4.4%
San Luis Obispo County	3.2%	8.1%	7.1%	2.1%	11.4%	4.4%	1.6%	4.7%	10.8%	23.1%	12.8%	5.1%	5.5%
Census Tract 115.03	2.0%	6.8%	6.8%	3.2%	6.6%	3.1%	1.0%	5.1%	17.9%	26.8%	12.0%	4.5%	4.0%
Census Tract 116	2.2%	9.5%	8.0%	3.1%	9.7%	4.0%	0.0%	13.1%	11.5%	24.9%	9.1%	3.1%	1.8%
Census Tract 117.01	0.8%	1.7%	3.5%	0.0%	13.7%	6.1%	0.8%	6.1%	11.1%	27.6%	20.3%	4.0%	4.1%
Census Tract 117.04	1.8%	5.0%	8.5%	2.1%	5.6%	5.2%	1.1%	3.6%	19.5%	24.4%	13.7%	5.5%	4.0%
Census Tract 118	0.0%	5.1%	6.2%	0.9%	6.6%	5.5%	1.6%	8.3%	15.5%	24.3%	11.4%	8.3%	6.2%
Census Tract 119.01	1.0%	5.4%	2.9%	2.1%	8.8%	8.0%	3.9%	4.6%	7.7%	23.9%	20.6%	6.2%	4.7%
Census Tract 119.02	1.5%	8.0%	5.4%	2.2%	9.3%	8.3%	0.7%	5.3%	7.9%	22.1%	14.8%	4.6%	9.9%
Census Tract 120	0.0%	6.6%	6.9%	3.8%	16.0%	5.7%	5.5%	3.3%	6.8%	24.9%	9.3%	5.9%	5.3%
Census Tract 121.02	0.4%	5.7%	4.3%	1.4%	7.0%	9.1%	1.5%	3.3%	15.9%	26.3%	19.5%	2.6%	2.9%
Census Tract 122	5.1%	15.1%	5.1%	4.2%	16.5%	4.8%	0.0%	3.7%	6.1%	14.5%	16.8%	4.1%	4.0%
Census Tract 123.02	8.8%	9.6%	6.9%	0.9%	4.9%	4.2%	0.0%	8.3%	22.2%	19.9%	6.3%	1.8%	6.1%
Census Tract 123.04	6.2%	11.7%	4.4%	2.0%	10.0%	5.0%	0.4%	10.7%	5.1%	27.0%	6.2%	11.7%	4.4%

Source: US Census, 2019.
[1] Represents all population not identified as another race "Alone" (White Alone, Black Alone, etc.)

Table 7-10. US Census Income and Population Statistics for California, Santa Barbara County, and SMVR-SB 5-Mile Radius

Geography	Total Population	Median Household Income	Low-Income Population[1] (Percent of Total)
California	39,538,223	$106,916	13.4%
Santa Barbara County	444,829	$106,421	13.5%
Census Tract 20.06	2,805	$152,519	6.6%
Census Tract 20.07	10,983	$92,041	5.1%
Census Tract 20.08	7,074	$109,457	5.2%
Census Tract 20.11	6,302	$92,205	7.6%
Census Tract 20.12	3,196	$104,871	6.9%
Census Tract 20.13	2,716	$141,947	2.8%
Census Tract 21.02	2,398	$86,875	10.7%
Census Tract 21.03	4,495	$65,509	18.0%
Census Tract 23.03	6,601	$80,996	16.2%
Census Tract 23.04	6,041	$59,883	17.9%
Census Tract 23.06	9,003	$85,115	3.7%
Census Tract 24.02	13,173	$72,658	17.8%
Census Tract 24.03	6,850	$56,886	25.2%
Census Tract 24.04	8,949	$57,324	24.4%
Census Tract 25.02	7,573	$62,299	17.7%
Census Tract 26.06	3,400	$78,193	3.4%
Census Tract 123.04*	10,975	$113,717	4.4%

Source: US Census, 2019. * Located within San Luis Obispo County

[1] Represents the population identified as "Income in the past 12 months below poverty level."

Table 7-11. US Census Race Statistics for California, Santa Barbara County, and SMVR-SB 5-Mile Radius

Geography	Hispanic or Latino[1] (Percent of Total Population)	Alone (Percent of Total Population)				
		White	Black	American Indian	Asian	Other/Mix
California	40.3%	59.7%	5.8%	0.8%	14.5%	19.2%
Santa Barbara County	22.5%	77.5%	2.0%	1.0%	5.6%	13.8%
Census Tract 20.06	16.7%	83.3%	0.6%	1.6%	4.3%	10.2%
Census Tract 20.07	20.7%	79.3%	1.7%	0.7%	7.8%	10.5%
Census Tract 20.08	14.8%	85.2%	2.7%	2.1%	2.8%	7.2%
Census Tract 20.11	22.3%	77.7%	1.9%	0.5%	4.1%	15.8%
Census Tract 20.12	15.4%	84.6%	0.2%	0.0%	6.2%	8.9%
Census Tract 20.13	17.3%	82.7%	3.6%	0.3%	2.7%	10.8%
Census Tract 21.02	15.3%	84.7%	1.0%	0.0%	0.5%	13.8%
Census Tract 21.03	17.4%	82.6%	0.6%	0.4%	8.2%	8.3%
Census Tract 23.03	18.5%	81.5%	0.3%	0.9%	3.5%	13.8%
Census Tract 23.04	15.7%	84.3%	0.2%	2.8%	4.4%	8.2%
Census Tract 23.06	26.0%	74.0%	0.0%	1.4%	12.9%	11.7%
Census Tract 24.02	16.0%	84.0%	2.5%	1.6%	5.2%	6.7%
Census Tract 24.03	12.2%	87.8%	0.0%	0.2%	0.0%	12.0%
Census Tract 24.04	14.2%	85.8%	1.7%	0.4%	1.1%	11.0%
Census Tract 25.02	23.7%	76.3%	0.7%	2.0%	3.9%	17.1%
Census Tract 26.06	36.3%	63.7%	10.8%	0.8%	4.6%	20.1%
Census Tract 123.04*	16.2%	83.8%	0.3%	1.2%	2.3%	12.4%

Source: US Census, 2019. * Located within San Luis Obispo County

[1] Represents all population not identified as another race "Alone" (White Alone, Black Alone, etc.)

Table 7-12. US Census Employment Statistics for California, Santa Barbara County, and SMVR-SB 5-Mile Radius

Geography	Employment by Industry (Percentage of Total Workforce)												
	Agriculture, Forestry, Fishing and Hunting, Mining	Construction	Manufacturing	Wholesale Trade	Retail Trade	Transportation and Ware-housing, and Utilities	Information	Finance and Insurance, and Real Estate and Rental and Leasing	Professional, Scientific, and Management, and Administrative and Waste Management Services	Educational Services and Health Care and Social Assistance	Arts, Entertainment, and Recreation, and Accommodation and Food Services	Other Services, except Public Administration	Public Administration
California	2.2%	6.3%	9.1%	2.8%	10.5%	5.3%	2.9%	6.0%	13.7%	21.0%	10.4%	5.2%	4.4%
Santa Barbara County	9.1%	5.8%	6.8%	1.8%	9.6%	3.0%	1.8%	4.6%	12.1%	23.2%	12.5%	5.5%	4.1%
Census Tract 20.06	28.8%	4.8%	4.4%	0.0%	9.4%	5.5%	0.2%	4.1%	10.9%	14.2%	6.8%	4.2%	6.7%
Census Tract 20.07	2.7%	8.4%	5.5%	1.7%	13.0%	6.1%	4.9%	5.0%	3.1%	22.5%	9.0%	9.7%	8.3%
Census Tract 20.08	0.8%	12.9%	3.8%	2.1%	12.5%	3.9%	1.0%	5.1%	10.7%	26.8%	8.8%	6.3%	5.3%
Census Tract 20.11	11.7%	8.5%	9.7%	3.5%	9.8%	2.3%	0.7%	4.8%	8.3%	20.1%	11.4%	5.0%	4.4%
Census Tract 20.12	1.4%	13.4%	7.3%	1.9%	8.2%	4.2%	0.0%	3.6%	8.4%	23.9%	13.8%	5.1%	9.0%
Census Tract 20.13	4.4%	3.1%	7.6%	0.0%	7.3%	1.8%	2.2%	15.4%	10.0%	32.0%	7.2%	1.1%	7.8%
Census Tract 21.02	19.8%	7.1%	3.0%	1.6%	12.9%	5.3%	0.0%	7.2%	7.7%	14.0%	10.8%	3.0%	7.7%
Census Tract 21.03	33.4%	6.9%	4.0%	1.2%	6.6%	3.9%	2.0%	1.4%	10.7%	16.4%	6.4%	3.1%	4.0%
Census Tract 23.03	40.0%	7.0%	4.4%	0.7%	7.9%	3.0%	0.6%	1.1%	9.9%	10.9%	9.0%	3.5%	2.0%
Census Tract 23.04	46.2%	5.2%	6.0%	1.1%	8.5%	2.1%	0.0%	0.6%	6.5%	7.0%	9.7%	6.4%	0.7%
Census Tract 23.06	12.8%	6.2%	8.2%	2.0%	14.8%	4.9%	0.8%	1.8%	8.4%	19.1%	10.6%	6.6%	3.8%
Census Tract 24.02	24.5%	5.2%	4.4%	4.1%	10.5%	7.3%	0.9%	3.7%	5.8%	16.6%	8.2%	2.8%	5.9%
Census Tract 24.03	55.7%	5.0%	0.7%	2.1%	4.3%	0.7%	0.0%	0.5%	7.2%	8.7%	8.9%	6.0%	0.3%
Census Tract 24.04	58.5%	2.4%	4.4%	6.4%	2.4%	1.3%	0.0%	3.3%	5.0%	10.1%	4.0%	0.8%	1.5%
Census Tract 25.02	29.6%	4.9%	6.0%	6.2%	9.7%	1.0%	1.7%	4.3%	6.1%	18.4%	4.2%	4.8%	3.2%
Census Tract 26.06	0.6%	2.7%	1.7%	0.0%	12.0%	1.8%	0.7%	3.4%	5.5%	12.3%	10.6%	2.4%	46.4%
Census Tract 123.04*	6.2%	11.7%	4.4%	2.0%	10.0%	5.0%	0.4%	10.7%	5.1%	27.0%	6.2%	11.7%	4.4%

Source: US Census, 2019. * Located within San Luis Obispo County

7.3.1.1 California Office of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen Results

CalEnviroScreen is a screening tool that evaluates the burden of pollution from multiple sources in communities while accounting for potential vulnerability to the adverse effects of pollution (CalEnviroScreen, 2021). CalEnviroScreen ranks Census Tracts in California based on potential exposures to pollutants, adverse environmental conditions, socioeconomic factors, and prevalence of certain health conditions. The CalEnviroScreen model uses the following formula to calculate an overall score for a particular census tract:

[Pollution Burden] x [Population Characteristics] = CalEnviroScreen Score

Pollution Burden and Population Characteristics each has a maximum score of 10; therefore, the maximum CalEnviroScreen Score is 100 (10 x 10 = 100). Census Tracts (and population within) that are scored by CalEnviroScreen between 75 and 100 are considered disadvantaged communities within a statewide context. [65]

Figures 7-6 through 7-8 present the CalEnviroScreen scores for each 2020 US Census Tract contained within a 5-mile radius of the three Project sites (DCPP, PBR, and SMVR-SB sites). It must be noted that CalEnviroScreen utilizes 2020 Census Tracts, which are different from the 2019 Census Tracts utilized in Tables 7-4 through 7-12 (where 2020 Census data was unavailable at the time of this analysis).

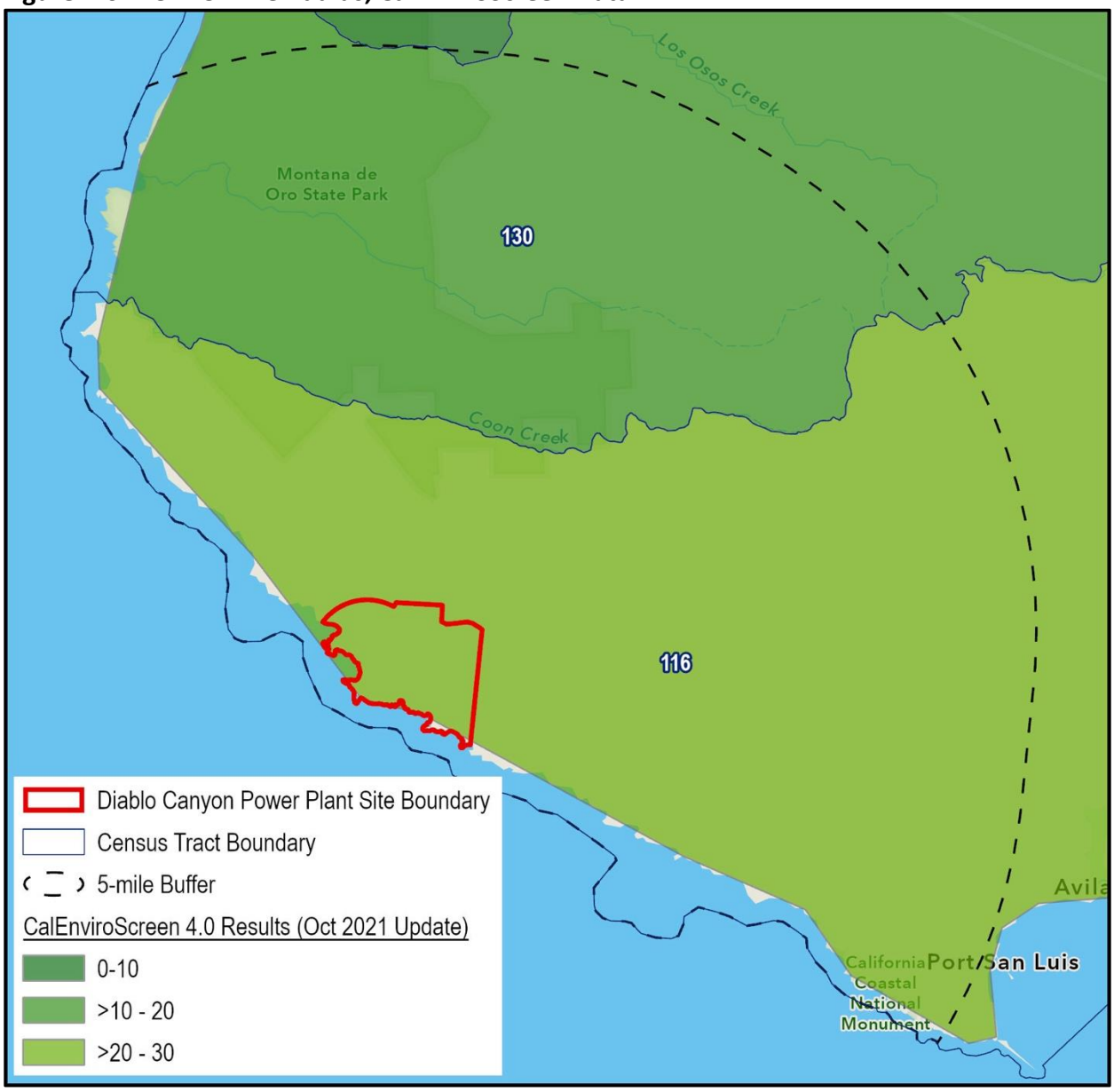
As shown, both the DCPP (Figure 7-6) and PBR sites (Figure 7-7) and surrounding 5-mile radius do not contain any population considered disadvantaged, as identified by CalEnviroScreen. However, the 5-mile radius surrounding the SMVR-SB site contains several Census Tracts with disadvantaged population (as shown in Figure 7-8):

- 2020 Census Tracts 25.03 and 25.04 have a CalEnviroScreen score between 80 and 90. For the purposes of this analysis, these tracts are considered disadvantaged communities. These 2020 Census Tracts are the same as 2019 Census Tract 25.02 shown on Figure 7-5.

2020 Census Tracts 24.07, 24.08, 24.09, and 24.10 have a CalEnviroScreen score between 70 and 80. Even though these Tracts could have a score below 75, for the purposes of this analysis they are all considered disadvantaged communities. These 2020 Census Tracts are the same as 2019 Census Tracts 24.02, 24.03, and 24.04 shown on Figure 7-5.

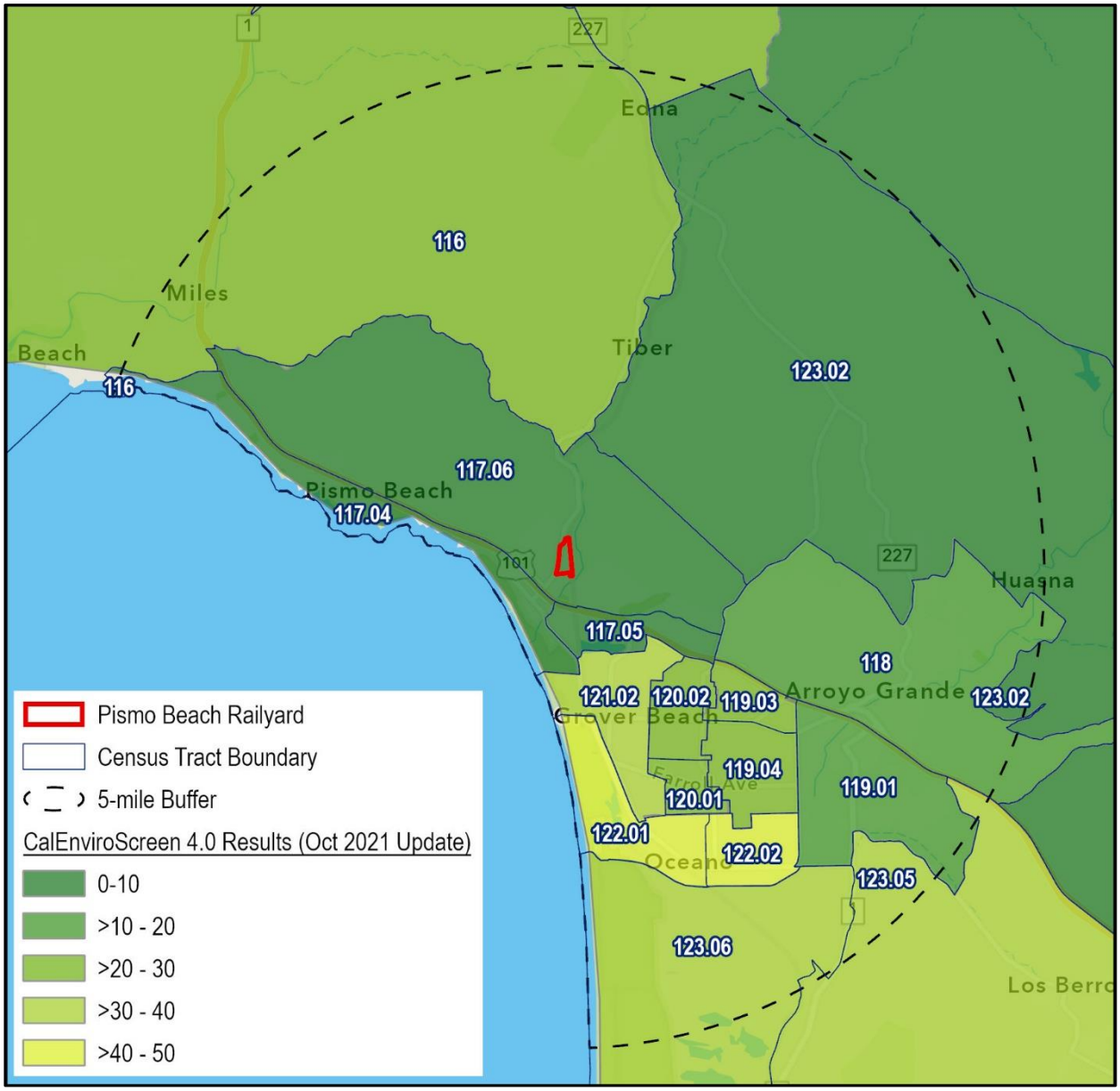
[65] The term "disadvantaged community" is commonly associated with minority and low-income populations in several California laws (e.g., Safe Drinking Water Act, Affordable Housing and Sustainable Communities Program [Pub. Resources Code, div. 44, part 1, § 75200]). Additionally, the California Legislature passed SB 535 (De León, Chapter 830, Statutes of 2012), regarding the Greenhouse Gas Reduction Fund, which requires the California Environmental Protection Agency (CalEPA) to implement a more comprehensive approach to identifying disadvantaged communities within the State through the use of public health and environmental hazard criteria in addition to socioeconomic data. Through this refined approach, the State definition of disadvantaged communities was expanded to include areas that are disproportionately impacted by environmental pollution and negative public health effects.

Figure 7-6. DCPP 5-Mile Radius, CalEnviroScreen Data



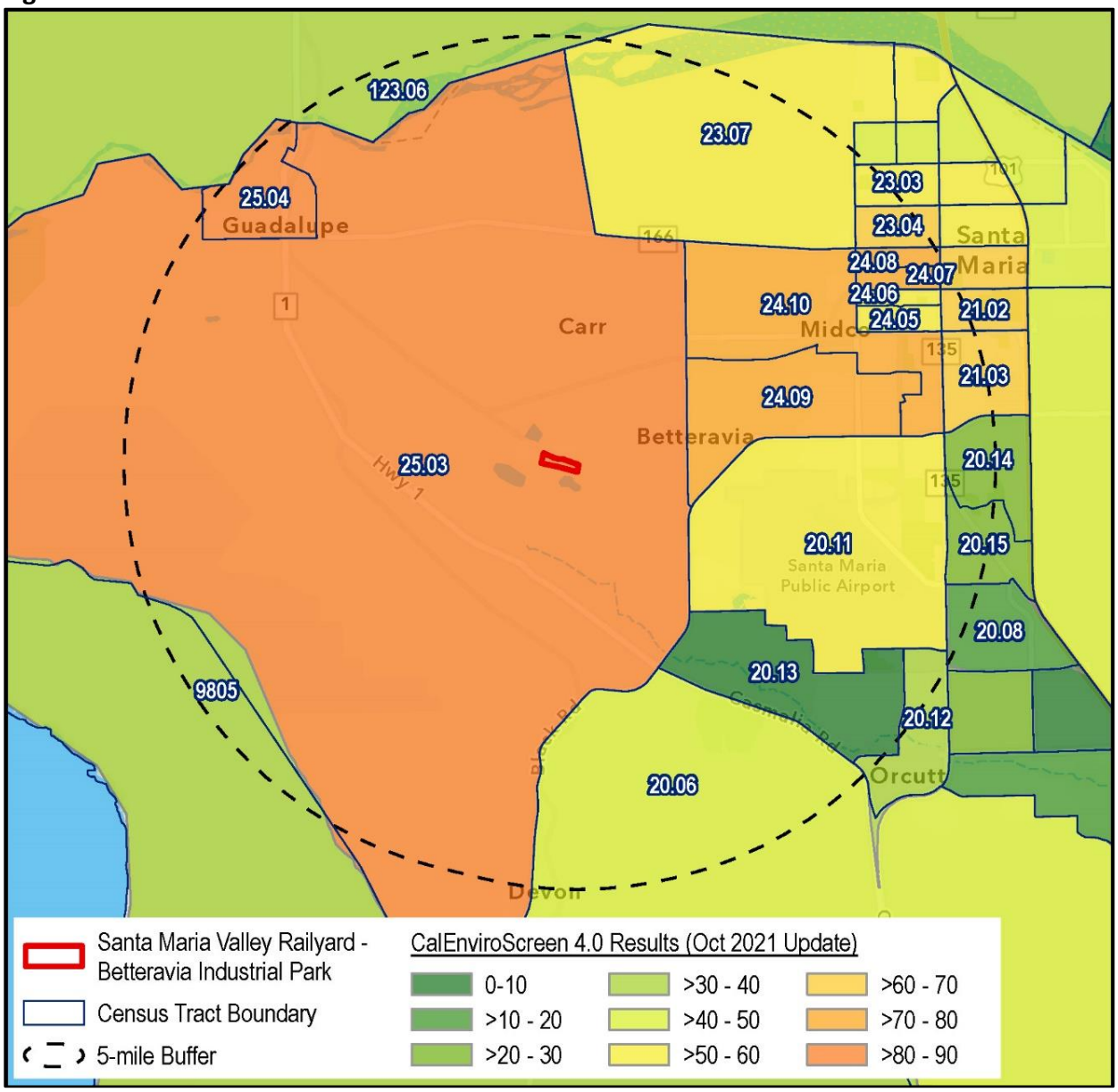
Source: PG&E, 2021; US Census, 2021; OEHHA, 2021.

Figure 7-7. PBR 5-Mile Radius: CalEnviroScreen Data



Source: PG&E, 2021; US Census, 2021; OEHHA, 2021.

Figure 7-8. SMVR-SB 5-Mile Radius: CalEnviroScreen Data



Source: PG&E, 2021; US Census, 2021; OEHHA, 2021.

7.3.2 Environmental Considerations

Six Census Tracts located within a five-mile radius of the SMVR-SB site are identified by CalEnviroScreen as disadvantaged communities. As discussed in Section 7.3.1, there are no Census Tracts that contain predominately disadvantaged populations within five miles of the DCPP and PBR sites. The following analysis addresses the extent to which the Proposed Project's impacts described in Chapter 4 would disproportionately affect disadvantaged communities near the SMVR-SB site.

Aesthetics

The Proposed Project would create new sources of light and glare at the SMVR-SB site from Phase 1 transport activities (see Section 4.1.4, *Aesthetics*). Temporary lighting would be installed at the SMVR-SB railyard to accommodate nighttime activities, including the unloading of truck shipments of waste and loading of this waste onto rail cars. The populations who would be affected by temporary lighting have been identified as disadvantaged communities (i.e., Census Tracts 25.03, 24.09, and 24.10). Implementation of MM AES-1 (*SMVR Lighting Guidelines*) (Section 4.1) would be necessary to prevent a measured increase in illumination onto adjacent properties. MM AES-1 identifies lighting standards that are required at the SMVR-SB site to sufficiently reduce impacts to a level that is less than significant. With implementation of MM AES-1, there would be no disproportionate adverse effects to a disadvantaged community.

Air Quality

As discussed in Section 4.2.4, *Air Quality*, a Health Risk Assessment was prepared to evaluate adverse health risk effects associated with use of the SMVR-SB site. There are no schools near the SMVR-SB site that could be exposed to substantial pollutant concentrations. The results of the Health Risk Assessment for the Proposed Project determined that the maximum exposed individual at a residential location at the SMVR-SB site would experience an excess cancer risk of 1.28 chances in one million, and the maximum exposed individual at a worker location would experience an excess cancer risk of 0.62 chances in one million. Both cancer risks do not exceed the threshold of 10 excess cancer cases in a million (see Section 4.2.4). The cancer risk impact for the SMVR-SB reflects the Proposed Project's use of equipment meeting Tier 4 emission standards (Applicant Commitment [AC] AQ-2) and Tier 4 Interim equipment for smaller equipment and limiting idling of diesel equipment or vehicles (AC AQ-3) to minimize pollutant concentrations. As such, the Proposed Project would not disproportionately affect disadvantaged communities nearest to the SMVR-SB site.

Hazards

Both radiological waste (Class A, B, C) and non-radiological hazardous waste could be transported to the SMVR-SB site during Phase 1. Section 4.10.4, *Hazardous and Radiological Materials*, discusses the types of transport activities for which the railyards are currently used, which includes transport of hazardous liquids and materials. Shipments to the SMVR-SB site would be subject to routine hazardous material handling, transport, and disposal regulations described in Section 4.10.4. The analysis in Section 4.10.4 concludes that transport of radiological and non-radiological hazardous waste to the SMVR-SB site would not create a significant hazard to the public. While the community that surrounds the SMVR-SB site is considered disadvantaged, the routine transport of waste through this operating railyard would not disproportionately impact a disadvantaged community.

Noise

During Phase 1, site modifications at the SMVR-SB site would require the use of equipment such as a truck, forklift, spike driver, generator, and various hand tools, and waste loading activities would include trucking activity. Both construction and operations would expose sensitive recep-

tors to increased noise levels. The closest sensitive receptors to the SMVR-SB site are located approximately 1.3 miles away, and the noise level of construction and operations would comply with both the Santa Barbara County Municipal Code Noise Restrictions and the daytime and nighttime criteria of the City of Santa Maria noise ordinance. The predicted construction noise level at the nearest sensitive receptor is 41 dBA, which is lower than the measured ambient noise levels in the vicinity. Additionally, truck route noise levels to the SMVR-SB site were modeled to estimate the increase in noise levels over existing ambient noise levels. Project truck traffic would result in an increase of 0.4 dBA or less in the ambient noise levels, which is not perceptible (less than 3 dBA). As the maximum noise level increase along the truck route to the SMVR-SB site would not be perceptible, noise would not have disproportionate adverse effects to a disadvantaged community.

Access Restrictions

Section 4.15, *Recreation and Public Access*, describes the Proposed Project's impacts on public access to recreational resources. No coastal access or public recreational areas are near the SMVR-SB, as it is a highly industrial area. As such, truck traffic traveling to the SMVR-SB would not impede any access points to recreational or coastal areas.

Section 4.12, *Land Use, Planning, and Agriculture*, discusses activities that would disrupt existing land uses, such as access to public areas. Modular transporters or other oversize vehicles could temporarily limit public access along proposed routes, which would include Betteravia Road to access the SMVR-SB site. Affected land uses along Betteravia Road include residences, commercial uses, schools, and a police department. Populations along the transport routes would be impacted by temporary access restrictions and have been identified as disadvantaged communities (i.e., Census Tracts 24.09, 24.10, and 25.03). However, MM TRA-2 (*Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*), MM TRA-3 (*Decommissioning Liaison*), MM TRA-4 (*Advance Notification of Decommissioning*), MM TRA-5 (*Quarterly Decommissioning Updates*), and EM-2 (*Project Plan, Updating, Tracking, and Reporting*) would be implemented. The transportation management plan would minimize effects on land uses along transport routes by identifying parking restrictions, maintaining emergency travel lanes, and providing public notification in advance of road closures. Providing advance notice and quarterly decommissioning updates to residents, property owners, and businesses would reduce adverse impacts associated with temporary access restrictions. As such, the Proposed Project would not disproportionately affect disadvantaged communities located along transport routes to the SMVR-SB site.

Section 4.16, *Transportation*, discusses railyard modifications and impacts to access during Phase 1. There would be no significant transportation-related impact to the communities surrounding the SMVR-SB site associated with railyard modifications, as driveway upgrades would follow applicable roadway and design standards. During operation of the SMVR-SB site, trucking activity would require temporary and intermittent road closures that may affect emergency access. MMs TRA-1 through TRA-5 (*Truck Transportation Outside of Peak Hours*, *Specialty Heavy-Haul Transport Vehicle Transportation Management Plan*, *Decommissioning Liaison*, *Advance Notification of Decommissioning*, and *Quarterly Decommissioning Updates*) would require the preparation and implementation of a plan specifying off-peak hours for truck traffic, a traffic management

plan in consultation with jurisdictions responsible for the relevant public rights-of-way, and public notification of decommissioning activities. With implementation of MMs TRA-1 through TRA-5, there would be no disproportionate adverse effects to a disadvantaged community regarding trucking activities.

7.4 State Tide and Submerged Lands Possessing Significant Environmental Values

The Proposed Project includes lands recognized as possessing significant environmental values within the California State Lands Commission (CSLC) Significant Lands Inventory, pursuant to Public Resources Code section 6370 et seq. The DCPP site is located in the Significant Lands Inventory as parcel number 40-062-810, which includes the tide lands of the Pacific Ocean lying below the ordinary high-water mark from Lion Rock to Pecho Creek (CSLC, 2022). The subject lands are classified in use category Class B, which authorizes limited use. The parcel was identified as having significant environmental values regarding biological resources, fishery or wildlife, and wildlife support (CSLC, 1975).

CSLC has jurisdiction over State-owned sovereign lands adjacent to the DCPP site, which includes portions of the facility that extend onto filled and unfilled tide and submerged lands of the Pacific Ocean. On June 28, 2016, CSLC authorized lease PRC 9347.1, a general lease for industrial use on sovereign lands, for continued use and maintenance of DCPP facilities and structures located on sovereign lands, including the Discharge Structure, Intake Structure, Breakwaters, Marina (which includes the boat dock and rip rap along the shore of the Marina), storage facility, office facilities, intake electrical room, intake maintenance shop, equipment storage pad, and spare tri-bar storage.

The Proposed Project includes removal of the Discharge Structure as part of Phase 1 activities with retention of the Breakwaters, and Intake Structure (with modifications). A new lease or amendment to lease PRC 9347.1 would be required to implement the Proposed Project. Removal of the Discharge Structure would require the construction of cofferdams within the discharge area to isolate the work area from the Pacific Ocean and create dry work conditions, causing temporary impacts to this area. The Intake Structure and surrounding area would be modified to allow for the loading of barges for waste transportation. A fendering system would be installed on the Intake Structure for barges as well as various mooring points on the structure and breakwater tri-bar. The water circulation tunnels associated with the Intake and Discharge Structures would be filled with controlled low strength material (CLSM) generated from clean, crushed concrete generated from structure demolition. Following removal of the Discharge Structure, restoration activities would focus on the re-establishment of intertidal habitats. The Proposed Project may potentially result in significant and unavoidable impacts associated with the potential transplantation of black abalone during construction, but this activity would not remove habitat. Although the Proposed Project would result in temporary impacts to this area's significant environmental values, the long-term improvements achieved by the decommissioning of the DCPP facility are expected to be beneficial. The CSLC will make the final determination as to effects on State-owned sovereign lands.

7.5 Terrorism

Terrorism is a serious threat to the welfare of the public and is a concern when considering the safety of long-term storage of SNF and transport of radioactive materials. The US Nuclear Regulatory Commission (NRC) ensures safeguards and security for nuclear facilities, high-level radioactive waste facilities, and other radioactive materials and activities. NRC responsibilities include safeguarding from terrorism, especially after the terrorist attack of September 11, 2001, which led to more stringent security requirements. The transport of radioactive materials during decommissioning and storage of radioactive materials after decommissioning could be potential targets for terrorism threats.

Terrorism is not a required topic under CEQA. However, in 2006, the US Court of Appeals for the 9th Circuit (*San Luis Obispo Mothers for Peace, et. al v. Nuclear Regulatory Commission*) held that failure to address the environmental impacts of a terrorist attack on a nuclear power facility in an Environmental Impact Statement (EIS) prepared under the National Environmental Policy Act (NEPA) was not reasonable (9th Circuit, 2006). In this ruling, the Court held that the numeric probability of a terrorist attack need not be precisely quantifiable in order for its potential environmental impacts to be considered. Rather, the Court found, the proper inquiry is whether the risk of an attack is significant. If so, then NEPA requires taking a "hard look" at the environmental consequences of a terrorist attack. Although CEQA guidelines do not specifically address the issue of terrorism, CEQA was developed as a California counterpart to NEPA. Therefore, given these court rulings and public concern regarding terrorist attacks on regional infrastructure, this section has been developed to qualitatively address environmental consequences that could result from a potential terrorist attack.

It should be noted that given the uncertain nature of terrorist attacks (i.e., location, timing, and other factors), there are challenges in determining reasonable thresholds for the likelihood of an attack or the associated environmental consequences. However, the following discussion attempts to present the potential scenario and associated consequences as they relate to the likelihood of the DCPP becoming the target of a terrorist attack.

7.5.1 Background

National Infrastructure Protection Plan. The US Department of Homeland Security's Cybersecurity and Infrastructure Security Agency developed the National Infrastructure Protection Plan (NIPP) to provide an approach for integrating the country's many critical infrastructure and key resources (CIKR) protection initiatives into a single national effort. The NIPP does not provide or recommend specific measures to protect individual resources; however, it does establish national priorities, goals, and requirements for CIKR protection to direct federal funding and resource application.

The NIPP considers a broad range of terrorist objectives, intentions, and capabilities to assess the threat to various components of CIKR. Based on that assessment, terrorists may contemplate attacks against CIKR to achieve three general types of effects (US Department of Homeland Security, 2006):

- **Direct Infrastructure Effects**: Disruption or arrest of critical functions through direct attacks on an asset, system or network, such as an attack on a substation or transmission tower.
- **Indirect Infrastructure Effects**: Cascading disruption and financial consequences for the government, society, and economy through public and private sector reactions to an attack. This type of effect could occur if the disruption of electrical service, resulting from an attack on the DCPP, consequently resulted in adverse impacts to a sensitive facility such as a hospital, airport, security facility, etc.
- **Exploitation of Infrastructure**: Exploitation of elements of a particular infrastructure to disrupt or destroy another target or produce cascading consequences. Such attacks use CIKR elements as a weapon to strike other targets, thereby allowing terrorist organizations to magnify their capabilities far beyond what could be achieved using their own limited resources.

US Nuclear Regulatory Commission. The Energy Reorganization Act of 1974 created the NRC to ensure public health and safety from radioactive materials and nuclear power. The NRC is focused on reactor safety oversight and reactor license renewal of existing plants, materials safety oversight and materials licensing, and waste management of high- and low-level wastes. The NRC is also responsible for addressing the protection of nuclear materials from terrorists and safely managing high- and low-level radioactive wastes (NRC, 2021a).

The NRC ensures safeguards and security by regulating licensees' accounting systems for special nuclear and source materials and security programs and contingency plans. These responsibilities include the following (NRC, 2021b).

- **Domestic Safeguards:** The NRC's domestic safeguards program ensures that special nuclear material in the US is not stolen or diverted from civilian facilities for illegal and harmful uses. Safeguards to protect against sabotage, theft, and diversion include physical protection of facilities at both fixed sites and during transportation and material control and accounting for special nuclear material (NRC, 2020a). Appendix G.2, *Radioactive Materials Transportation Experience and Risk Assessments*, provides background information and a discussion on regulations for the transport of nuclear material.
- **Information Security:** The NRC protects classified and sensitive unclassified information for the physical protection and safeguarding of nuclear materials and facilities to ensure that information is protected from unauthorized disclosure (NRC, 2020b).
- **Cybersecurity:** The NRC has implemented infrastructure changes, enhanced interagency interfaces, performed enhanced inspections, and developed a cybersecurity roadmap to protect information technology systems used in the operation of nuclear power plants (NRC, 2020c).
- **Radioactive Material Security:** The NRC regulates the use of radioactive material to provide appropriate safety and security requirements for radioactive material and to prevent the malicious use of radioactive material (NRC, 2020d). According to Appendix G.2, *Radioactive Materials Transportation Experience and Risk Assessments*, to address the terrorist attacks on September 11, 2001, the NRC enhanced security requirements for transporting radioactive material by requiring the following:
  - additional pre-planning and coordination with affected states,
  - additional advance notification of shipments,

  - enhanced control and monitoring,
  - trustworthiness checks for individuals involved with the shipment, and
  - stronger security controls over shipment routes and schedules.

- **Required Reporting for Clearance Holders:** NRC employees, contractors, licensee personnel, licensee contractors, and other entities holding security clearances from the NRC must report to the Security Executive Agent Directive (SEAD 3) and the NRC Personnel Security Program (MD 12.3). SEAD 3 is designed to strengthen the security of information by establishing reporting requirements for personnel with access to classified information or who hold a sensitive position, and MD 12.3 is a policy that provides assurance that cleared personnel are reliable and trustworthy to have access to NRC facilities, classified information, sensitive NRC information and equipment, nuclear power facilities, and special nuclear material (NRC, 2022).
- **Insider Threat Program for Licensees:** The National Industrial Security Program Operating Manual Insider Threat Program covers contractors and licensees who have access to classified information.
- **Background Checks:** NRC requires licensee criminal history records checks and firearms background check information.

The decommissioning of DCPP is covered by the NRC's 2002 Final Generic Environmental Impact Statement (GEIS) on Decommissioning of Nuclear Facilities Supplement (GEIS Supplement; NUREG-0586) (NRC, 2002). The GEIS Supplement is a comprehensive generic (i.e., programmatic) EIS that covers the potential environmental impacts likely to arise during decommissioning. According to the GEIS Supplement, the likelihood for a large radiological release impacting public health and safety from a decommissioned facility is considerably lower than the likelihood of a release from an operating reactor. This is because potential accidents associated with reactor operation are no longer relevant after the reactor fuel has been removed. Radiological accidents considered in licensing nuclear power plants are classified as design basis accidents and severe (beyond design basis) accidents. Design basis accidents are those accidents that both the licensee and the NRC staff evaluate to ensure that the plant can withstand normal and abnormal potential accidents without undue hazard to the health and safety of the public. Severe accidents are those that are beyond the design basis of the plant and are more severe than design basis accidents because they may result in substantial damage to the fuel. Design basis accidents primarily focus on reactor operation and are not applicable to plants undergoing decommissioning. The only design basis accidents or severe accidents (beyond design basis) applicable to a decommissioning plant are those involving the spent fuel pool. These potential accidents are evaluated to establish the design basis for the preventive and mitigative safety systems of the spent fuel storage facility (NRC, 2002).

7.5.2 Potential Environmental Consequences

The DCPP facility would be dismantled and decommissioned at the expiration of its 10 CFR Part 50 facility operating licenses, and electrical generation would cease. Because the DCPP facility would no longer be an operating nuclear power plant, the potential for it to be a target for a terrorist attack would greatly decrease. Therefore, the level of security would be reduced following decommissioning. During decommissioning, Class A, B, and C radioactive waste from

the reactor pressure vessels and internals and radiological contaminated large components would be hauled by truck and/or rail out of state for disposal. Some radiological materials, such as SNF and Greater than Class C (GTCC) waste, would be stored at the DCPP site in the previously approved ISFSI (not part of the Proposed Project) and the new on-site GTCC Waste Storage Facility, respectively.

In the unlikely event that a terrorist attack occurs to the ISFSI, GTCC Waste Storage Facility, trucks, or rail cars carrying radioactive waste, radioactive materials could be released, exposing people and the environment to potentially harmful levels of radiation that could last for many decades. Potential consequences of a terrorist attack could include contamination within the surrounding area, injuries, loss of life, and property damage. According to the GEIS for Continued Storage of Spent Nuclear Fuel (NUREG-2157), the environmental consequences of a successful attack on a spent fuel pool beyond the licensed life for operation of a reactor are large; however, the very low probability of a successful attack ensures that the environmental risk is small. Similarly, for an operational ISFSI during continued storage, the environmental risk of a successful radiological sabotage attack is small (NRC, 2014). Given the strict security measures and personnel presence at the DCPP site during and after decommissioning, the likelihood of a successful terrorist attack would be very low.

A terrorist attack at an operational power plant could also impair energy production, potentially affecting the statewide or nationwide electrical grid. However, a terrorist attack at the DCPP would not affect energy production, as the DCPP facility would no longer be generating electricity. No impact regarding energy production at the DCPP would occur because of a terrorist attack.

Strict security measures would continue to be required at the DCPP facility, for waste transport via heavy haul trucks, and at either of the SMVR sites. Because non-hazardous and non-radiological materials would be shipped to the PBR site, security measures would not be required at the PBR site. High-level security requirements at the DCPP facility currently consist of a long-range outdoor Firing Range and other various structures, systems, and components. During Phase 1, site security modifications would be required to support decommissioning. The need for large-scale security measures would gradually reduce as nuclear generating activities cease. However, PG&E will continue to provide security for the ISFSI in adherence to NRC requirements. Security requirements during decommissioning would consist of a staffed Security Building and an indoor Firing Range.

Security at either SMVR facility would be required for the duration of time when each shipment is received and temporarily stored at the SMVR site. Security during receipt and storage of the Class A, B, and C wastes would be maintained pursuant to 49 CFR 172.820. Security personnel would be present at either site when waste shipments are received and temporarily stored on site. Additionally, PG&E intends to install security measures such as a temporary 8-foot-high chain link perimeter fencing with barbed wire and privacy screen attached for adherence with federal regulations, lighting, security cameras, and security personnel. For safety reasons and based on federal preemption, details of other security modifications will not be discussed in this document or other public forums. To address security during receipt and storage of the Class A, B, and C wastes at the SMVR sites, PG&E is required to develop a Security Plan per 49 CFR

172.802. The plan is required to include the definition of the personnel and duties for each position responsible for implementing the Security Plan. The Security Plan would be reviewed at least annually and revised and/or updated as necessary. The most recent version of the Security Plan would be made available to the employees responsible for implementing it (Cornell Law School, 2010). With the presence of security staff, infrastructure, and guidance of a Security Plan, the likelihood of a terrorist attack would be very low.

8. Potential Site Reuse Concepts (Phase 3)

Once the DCPP has been decommissioned and Final Status Surveys have been completed (expected by the end of 2034, so within Phase 2 [2032-2039]), the area could be released from the NRC's 10 CFR Part 50 facility operating licenses for Units 1 and 2. Remaining DCPP facilities could then be repurposed or other areas developed to support reuse of the site. This chapter describes eight potential site reuse concepts for the DCPP site.

8.1 Introduction

In anticipation of the Proposed Project, governmental, public, private, and non-profit entities, and members of the public have contributed their ideas for the future reuse of the DCPP site and its surrounding lands. The reuse concepts discussed in this chapter were developed by the following organizations:

- **Diablo Canyon Decommissioning Engagement Panel (DCDEP)** hosts communication between the community engaged directly with the Pacific Gas & Electric Company (PG&E) and subject matter experts throughout the DCPP decommissioning process. The DCDEP's document entitled A Strategic Vision outlines the vision and goals of the group based on information from public meetings, workshops, and written correspondence (DCDEP, 2022).
- **Friends of the Diablo Canyon Lands (FODCL)** aims to conserve the ecological, cultural (Chumash), and scenic resources of the Diablo Canyon Lands while providing managed public access. The FODCL prepared the document entitled A Conservation Framework for the Diablo Canyon Lands with the short-term goal of including conservation recommendations from the 2021 PG&E Nuclear Decommissioning Cost Triennial Proceeding (NDCTP). The long-term goal of this report's recommendations is successful implementation of conservation (FODCL, 2021).
- **Pacific Gas & Electric Company's (PG&E)** document entitled DCPP Site: Repurposing and Reuse Concepts presents detailed information on the repurposing of existing infrastructure and land uses at the DCPP site (PG&E, 2021b).
- **The Regional Economic Action Coalition (REACH)** seeks to pursue inclusive economic prosperity and quality of life on California's Central Coast, including the following activities relevant to the DCPP decommissioning:
  - An open letter (May 2022) by community leaders and stakeholders addressing their vision for the future reuse of the DCPP, where it is a hub of clean energy innovation, a research and development campus, a harbor for blue economy activity, and community center for Chumash heritage (REACH, 2022a);
  - A study assessing the economic impact of offshore wind farm development on the Central Coast of California (REACH, 2021a);
  - A Memorandum of Understanding (MOU) between Congress, California State Senate, County of San Luis Obispo, California Polytechnic State University, REACH, The Land Conservancy of San Luis Obispo County, Tri-Counties Building & Construction Trades Council AFLCIO, and yak titʸu titʸu yak tiłhini Northern Chumash Nonprofit, with a unified vision for

decommissioning of the DCPP and future uses at the 585-acre Parcel P (March 2021) (REACH, 2021b); and

- A workshop (December 2021) hosted by REACH to find community consensus on the future reuse of the DCPP (REACH, 2022a).

- The **County of San Luis Obispo** conducted a DCPP Decommissioning EIR Scoping Process in December 2021, during which many of the reuse concepts outlined in the documents above were identified and discussed. The comments received regarding future site reuse are summarized in the report entitled Summary of Comments Received During Scoping Period (see Appendix B).

In reviewing the reuse concepts and approaches developed by these organizations, the County has identified eight concepts that are specific to the 750-acre DCPP site. These eight reuse concepts and the process used by various entities to develop them are presented in the following sections for information purposes.

8.2 Reuse Concept 1: Clean Tech Innovation Park

A regional economic action coalition for the Central Coast, known as REACH, seeks to pursue inclusive economic prosperity and quality of life on California's Central Coast. REACH proposed a concept for a Clean Tech Innovation Park that was developed through a REACH-led workshop and interviews with individual community members to find community consensus on future reuse of the DCPP site. Through this workshop and interviews, the Clean Tech Innovation Park was identified as the preferred reuse concept based on local feedback. In 2021, REACH published an MOU between Congressman Salud Carbajal, California State Senator John Laird, California State Assemblyman Jordan Cunningham, County of San Luis Obispo, California Polytechnic State University San Luis Obispo (Cal Poly San Luis Obispo), REACH, The Land Conservancy of San Luis Obispo County, Tri-Counties Building & Construction Trades Council, and the yak titʸu titʸu yak tiłhini Northern Chumash Tribe of San Luis Obispo County and the Region (ytt Tribe) presenting a unified vision for decommissioning of the DCPP and future use of the DCPP site (REACH, 2021b). Many of these MOU signatories published an open letter in May 2022 supporting the Clean Tech Innovation Park concept.

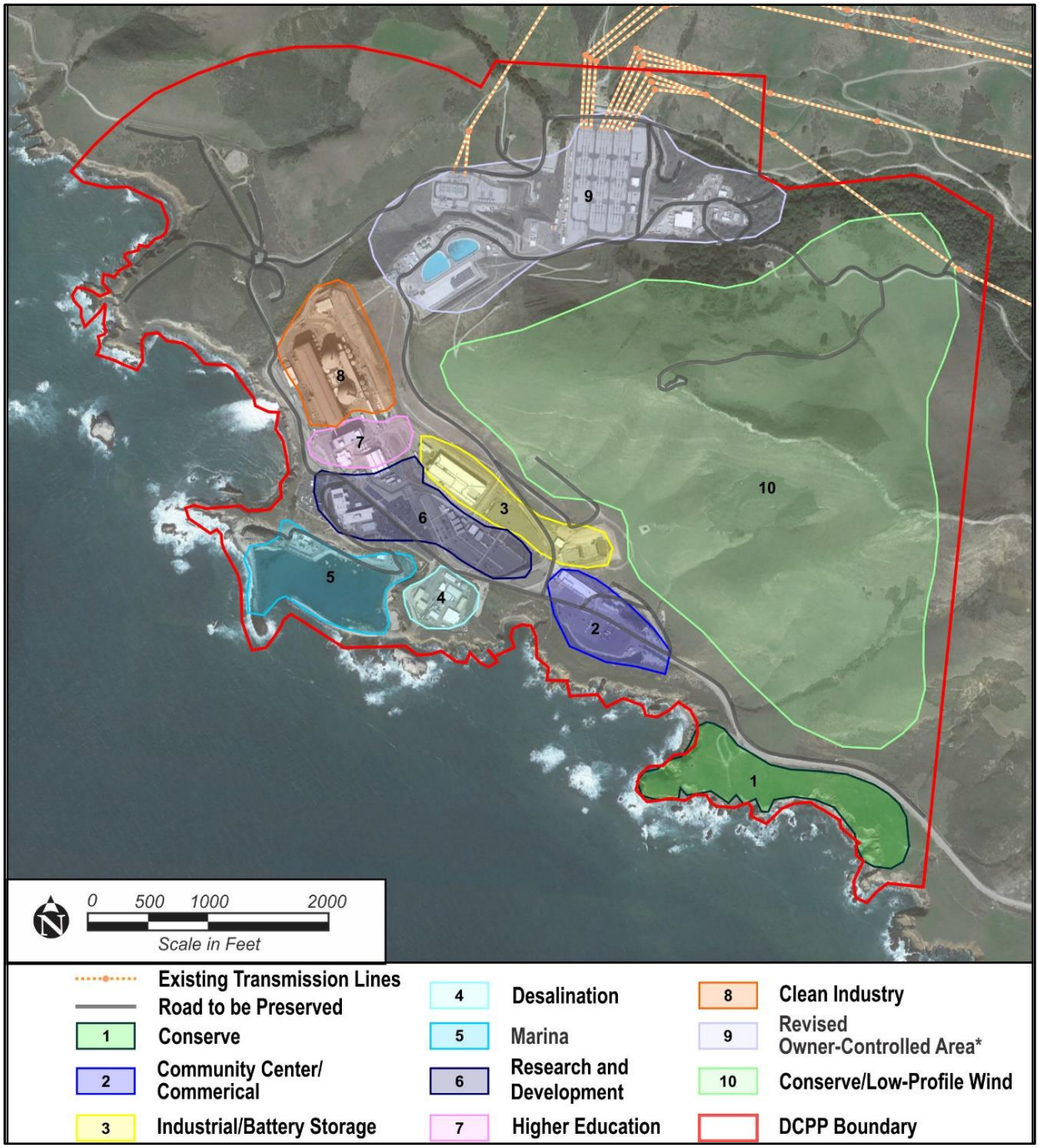
REACH's proposed Clean Tech Innovation Park Concept would convert the DCPP site into a mixed-use park supporting research, education, and commercial enterprises that would be managed by Cal Poly San Luis Obispo. Land uses would include clean-energy research, a harbor (Marina) for blue economy activity, a community center for Chumash heritage education and celebration, and use of existing DCPP transmission infrastructure to provide an electrical interconnection for future offshore wind energy development (REACH, 2022a). See Figure 8-1 for proposed land uses and their potential locations for the Clean Tech Innovation Park Concept.

REACH's proposed mixed-use concept would include a research and development campus where industry and academia can collaborate on emerging renewable technologies. The concept includes an expansion of the site's existing desalination capabilities. Additionally, this concept could utilize the existing high-voltage switchyards (500 kV and 230 kV) and the associated trans-mission lines connecting to the State's electricity grid, the extensive existing DCPP facilities, and

the site's proximity to future offshore wind development that is being considered along the Central Coast.

In addition to clean energy research and development, this concept would support conservation, local businesses, and job creation. The surrounding lands would be retained for conservation and tribal stewardship.

Figure 8-1. Clean Tech Innovation Park Concept



Source: REACH, 2022a, modified.

* Revised Owner-Controlled Area (#9) includes existing 230 kV and 500 kV Switchyards. Existing transmission line infrastructure would be maintained shown as orange dotted lines), except those elements removed as part of the Proposed Project (see Section 2.3.13).

In February 2023, REACH together with Cal Poly San Luis Obispo, ytt Tribe, and the Land Conservancy of San Luis Obispo released a proposal detailing reuse of the DCPP site as a Clean Tech Innovation Park under the leadership of Cal Poly San Luis Obispo, ownership of the Diablo lands north and south of the DCPP site by ytt Tribe, and conservation easements held by the Land Conservancy of San Luis Obispo on the lands north and south of the plant to ensure they are protected. Under this proposal, Wild Cherry Canyon, a 2,400-acre property northeast of the DCPP and owned by PG&E would be owned by an appropriate public agency such as state or county parks with a conservation easement held by the Land Conservancy. The proposal was prepared in support of the Land Conservation and Economic Development Plan prepared by the California Natural Resource Agency, pursuant to SB 846. SB 846, which was signed by the Governor in September 2022, provides a path for extended operations of the DCPP until 2029 for Unit 1 and 2030 for Unit 2. SB 846 also includes $160 million for local land conservation and economic development. The REACH, Cal Poly San Luis Obispo, ytt Tribe, and Land Conservancy proposal also includes information regarding combining the SB 846 funds with other public and private sources to implement the proposal (REACH, 2023).

8.3 Reuse Concept 2: Desalination Plant

This concept would utilize the existing DCPP desalination facility to serve potable water needs in San Luis Obispo County. Currently, the DCPP desalination facility can produce up to 450 gallons per minute (gpm) or 726 acre-feet per year (AFY) of freshwater using reverse osmosis technology (PG&E, 2021a). PG&E has communicated to the County of San Luis Obispo that the capacity of the existing desalination facility could be increased to 1,300 AFY (Water Systems Consulting, Inc., 2016). The Desalination Plant Concept would upgrade the existing desalination facility as needed (e.g., expanded reverse osmosis system), construct a new conveyance pipeline, and upgrade existing pipelines. Access to the desalination plant would be provided from Diablo Canyon Road, which is a 7-mile, paved, two-lane road that currently travels northwest from the access gate at Port San Luis to the DCPP site.

Water produced at the desalination plant would be available through contract to water companies, water districts, and other users needing new, augmented, or replacement water supply sources. Under this concept, the desalination plant would convey water to customers within southern San Luis Obispo County via the existing Lopez Pipeline system, which varies in diameter from six inches to 33 inches.[66] This concept would require construction of a new 7-mile pipeline from the desalination plant that would extend southeast along Diablo Canyon Road, until it connects with the Lopez Pipeline at Avila Beach Drive near Port San Luis. A 2016 feasibility study of the new 7-mile pipeline considered the construction of either a 10-inch diameter pipeline or a 12-inch diameter pipeline (San Luis Obispo, 2016). Additional infrastructure that would be required under this concept would include new pump stations to deliver water along the proposed route, and upgrades to portions of the existing Lopez Pipeline to withstand higher pressures and allow for additional capacity.

[66] The County of San Luis Obispo has received letters of interest for a Diablo Desalination Plant from the following agencies: City of Pismo Beach, City of Arroyo Grande, City of Grover Beach, Oceano Community Service District, Avila Beach Community Services District (San Luis Obispo, 2016).

Desalination is an energy-intensive process, with approximately 55 percent of a desalination plant's total operation and maintenance costs attributed to energy (Bienkowski, 2015). Electric power requirements for the desalination operation include power for intake pumps, pretreatment, desalination, finished water pumping, process equipment, interior and exterior building lighting, and heating and air conditioning. On average, desalination plants consume approximately 15-megawatt hours (MWh) of energy to produce one million gallons of water (Cooley and Heberger, 2013). As an example, the Carlsbad Desalination Plant in San Diego requires approximately 35 megawatts (MW) to produce 50 million gallons per day, which is provided in part by the adjacent Carlsbad Energy Center (EERE, 2019). Once DCPP ceases operations, additional electricity sources would be necessary to support the desalination plant, and the cost of energy needed to produce freshwater would depend on the provisions in these new contracts.

As the DCPP's 230 kV and 500 kV switchyards and transmission lines would be retained to meet existing customer needs (see Figure 8-1) (PG&E, 2021a), this infrastructure could be utilized to connect the desalination plant to a new energy source after the nuclear power plant shuts down. While the DCPP site has limited space to accommodate renewable energy development, small-scale solar (up to 3 MW) could be constructed as a supplemental source of energy for the desalination plant. Additionally, the existing Intake Structure could be retained to facilitate the continued use of the desalination plant, along with a brine line discharging to the ocean, as is proposed during the period of redirected flow for DCPP decommissioning (see Section 2.3.20, *Water Management, including Management of the Seawater Reverse Osmosis Facility and Liquid Radioactive Waste*). Alternatively, a new intake pipeline may be required to meet current regulatory requirements.

The DCDEP is in support of this concept to maintain a reliable source of fresh water to the DCPP site (DCDEP, 2022). The concept to operate and maintain the desalination facility also appeared in PG&E's repurposing and reuse concepts (PG&E, 2021b), and received support during the REACH workshop (REACH, 2022a) and in comments received during the Scoping Period (Appendix B).

On November 16, 2021, the County Board of Supervisors identified water resilience, including desalination specifically, as a top priority. On October 18, 2022, the Board adopted a resolution authorizing staff to proceed with developing the Desalination Executable Solution and Logistics (DESAL) Plan, a first step on a path to a regional desalination project. A wide range of conceptual alternatives (i.e., locations, partners/beneficiaries, sizes, etc.) will be included and evaluated in the DESAL Plan to inform decision makers, stakeholders and the public, and to document how a project could feasibly be implemented to meet a variety of needs and provide a variety of benefits. It is envisioned that the opportunities posed by the Diablo Canyon desalination facility will be considered, along with other alternatives, for vetting, analysis, ranking and potential selection as a regional desalination project (San Luis Obispo, 2022).

8.4 Reuse Concept 3: Recreation

This concept would develop the former DCPP site with recreation uses. The types of facilities that could be considered under a Recreation Concept range from moderate development (i.e., campground or cabins) to more extensive development (i.e., resort or hotel). Access to the

recreation facilities would be provided by Diablo Canyon Road as it travels northwest from Port San Luis to the DCPP site.

Campground/Cabin Concept. Development of a moderate-intensity recreation site would utilize the topographic features of the DCPP site to offer several types of recreational experiences. As illustrated in Figure 8-2, the blufftop areas adjacent to the Diablo Canyon Road could accommodate cabins at the south end of the bluffs, while campsites could be developed near the southeastern parking lot. The small canyon on the inland side of Diablo Canyon Road could be reserved for hike-in camping areas, similar to those within Montaña de Oro State Park. The existing desalination buildings could be replaced with tent camping on the east side of the Marina and a blufftop park (i.e., Point Plaza) that overlooks the west side of the Marina. Possible uses at the blufftop park could include benches, interpretive signage, and shade structures (see Figure 8-2, #10) (PG&E, 2021b).

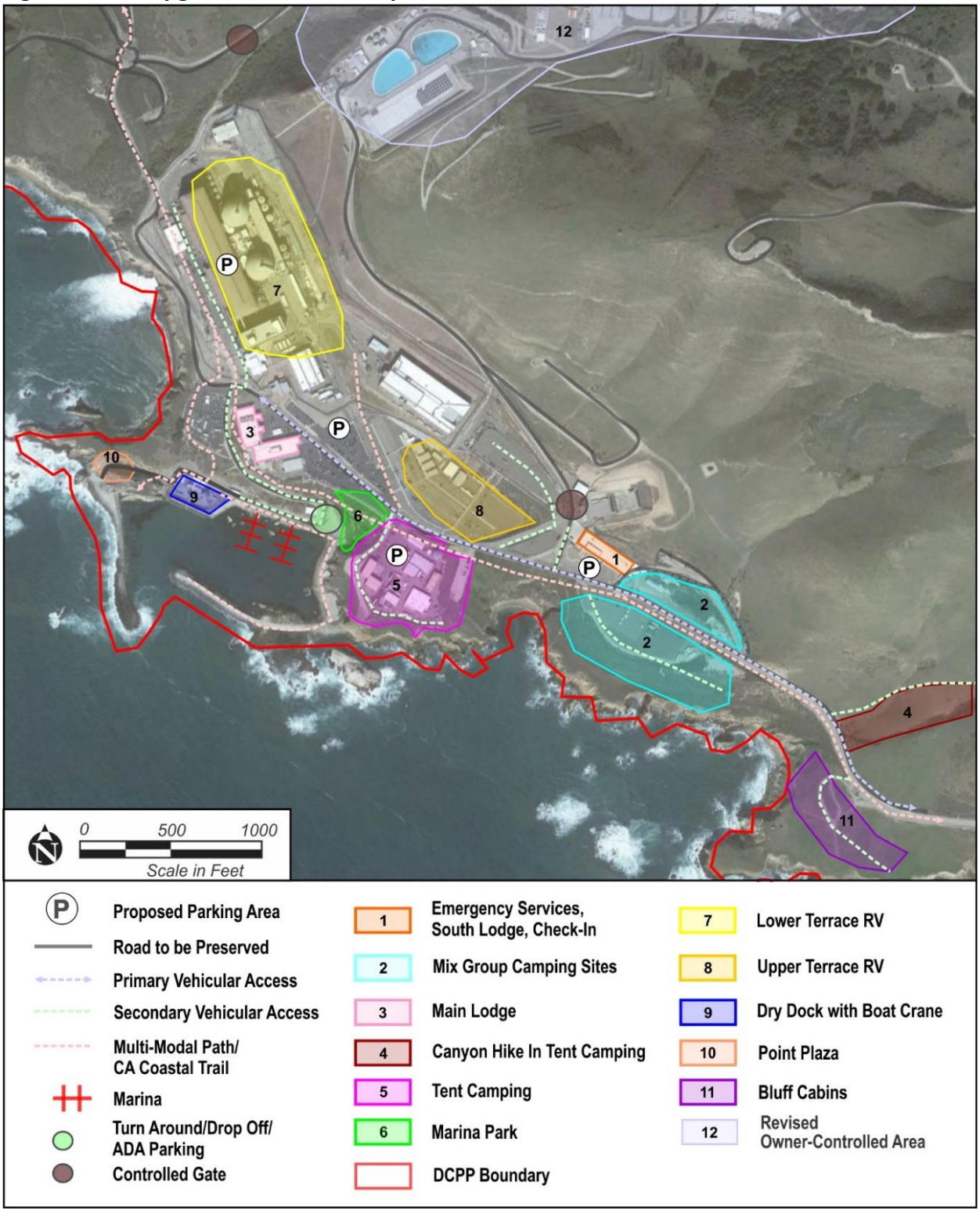
DCPP areas that are currently developed with the containment domes, main warehouse, and parking could be used for camping trailers and RVs (PG&E, 2021b). Structures such as the 32,712-square-foot Warehouse B and the 21,193-square-foot training building could be utilized for concessions and maintenance (PG&E, 2022). The intake area infrastructure may be repurposed as a dry dock and boat launch (via a crane) to access water recreation, such as kayaking and boating. Future hiking trails through the DCPP site could provide additional access to the Point Buchon and Pecho Coast/Rattlesnake Canyon Trails that already exist on PG&E and Eureka Energy properties. However, any new trails, which could facilitate creation of a continuous coastal trail in the shoreline area, would have to be studied and carefully sited to avoid impacts to sensitive resources.

Resort/Hotel Concept. Development of a traditional resort or an eco-resort at the DCPP site may include a variety of accommodations (e.g., lodge, yurts, camping, RV parking), as well as resort amenities such as a restaurant, general store, conference rooms, and on-site recreational experiences. Depending on the extent of development, a resort could accommodate up to 500 visitors and 75 employees (e.g., managers, recreation staff, cleaning staff, and restaurant staff) (Costanoa Lodge, 2022). See Figure 8-3 for the Resort/Hotel Concept.

In addition to the development opportunities for cabins and campgrounds described above, yurts could be located along the small canyon on the inland side of Diablo Canyon Road. Structures such as Warehouse B, the training building, and the 3,500-square-foot desalination facility could be converted or reconstructed to accommodate a large resort (e.g., 40 guest rooms) and ancillary amenities such as a restaurant, conference rooms, and concessions (PG&E, 2021b). Future use of the existing 292-square-foot firing range could include an amphitheater, which would take advantage of the existing slope (PG&E, 2021b). Opportunities for water recreation and trail use would be identical to the descriptions above.

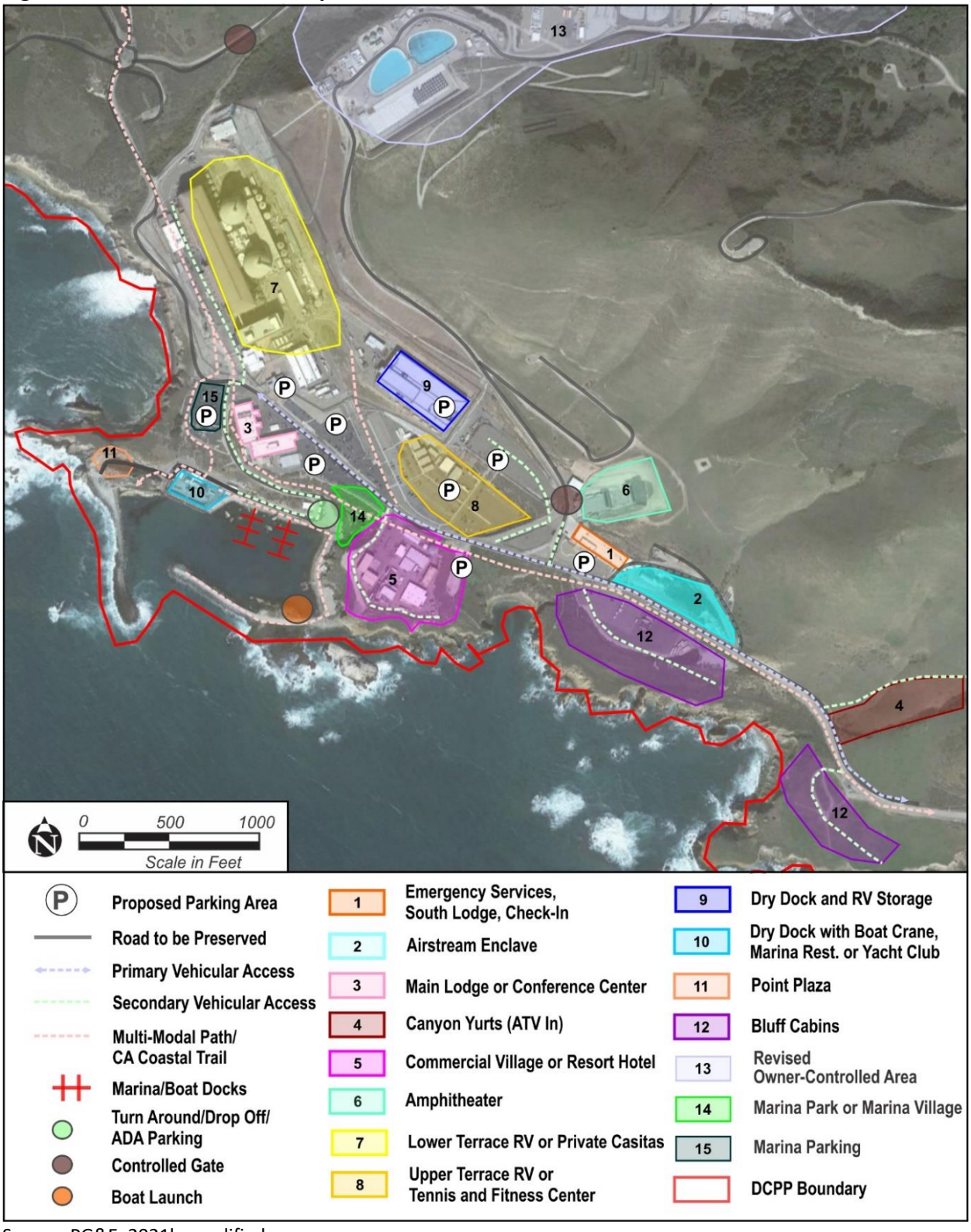
The resort/hotels concept was included in PG&E's Repurposing and Reuse Concepts document (PG&E, 2021b). While this concept would provide a wide range of recreational experiences at a premier Central Coast location, it would require the removal of most of the existing DCPP buildings and would require substantial infrastructure development.

Figure 8-2. Campground/Cabin Concept



Source: PG&E, 2021b, modified.

Figure 8-3. Resort/Hotel Concept



Source: PG&E, 2021b, modified.

8.5 Reuse Concept 4: Energy Storage System

This concept would utilize the DCPP site as an Energy Storage System (ESS) for current and future renewable energy uses. As part of the Proposed Project, DCPP's 230 kV and 500 kV switchyards and transmission lines would be retained in order to meet existing customer needs (see Figure 8-1) (PG&E, 2021a). Under this reuse concept, an ESS would connect to the existing switchyards and the associated transmission lines. The capacity of the ESS would be determined by the size of the system that is installed.

Battery Energy Storage. This ESS uses battery technology to collect energy (i.e., charge the battery) that can be discharged when needed. There are several battery chemistries with varying advantages and disadvantages. See Figure 8-4 for the potential layout of Battery Energy Storage at the DCPP site. Predominant Battery Energy Storage technologies that could be considered for the DCPP site are summarized below.

Lithium-ion batteries are one of the fastest-growing energy storage technologies due to their high energy densities (200 to 400 watt-hours per liter) and efficiency (85 to 95 percent) (EESI, 2019). As lithium-ion batteries have a flammable organic electrolyte and highly reactive component materials, safety engineering is a critical component of siting this type of ESS (ESA, 2022). To improve safety and minimize the footprint of these systems, lithium-ion batteries can be installed as a modular system. For example, a modular lithium-ion ESS began operating at the Alamitos Energy Center in January 2021. Alamitos Energy Center's 100-MW ESS has a four-hour discharge time and is housed in a 42,700 square-foot building that connects to a 104,200 square-foot substation (Colthorpe, 2021). In addition, the Los Angeles Department of Water and Power is currently studying similar modular ESS opportunities at all three of its coastal power plants, with the goal of installing between 250 and 350 MW of energy storage at each power plant site.

Lead-acid batteries have a long history in industrial power supply applications. This ESS technology has an energy density of 50 to 80 watt-hours per liter, and an efficiency of 80 to 90 percent (EESI, 2019). While lead batteries are not as efficient as lithium-ion batteries, a lead battery ESS does not generally present safety risks with siting and construction. An example of a large-scale lead-acid battery ESS is the smart grid demonstration project located at the East Penn Manufacturing facility in Pennsylvania. This 3-MW system is contained in a pre-engineered steel building, which includes heating and air conditioning and a sprinkler system, with a total footprint ranging from approximately 375 to 465 square feet (East Penn, 2015).

Flow batteries utilize a technology similar to rechargeable fuel cells and are best suited for longer discharge durations (i.e., six hours or more). As this ESS technology can discharge and recharge simultaneously, it can respond quickly to changing load needs. Currently, energy densities (20 to 70 watt-hours per liter) and efficiency (60 to 85 percent) for a flow battery ESS are not as competitive as lithium-ion batteries (EESI, 2019). However, the chemistry of flow batteries does not pose the same fire hazards as lithium-ion batteries (Scroggin-Wicker and McInerney, 2020). A standard 250-kW flow battery system is 13 feet in height and occupies a 3,900 square-foot area. Each 250-kW system is designed to be connected in parallel to allow configurations of up to 10 MW. This ESS technology has a two- to eight-hour discharge time, depending on the configuration (E22, 2022).

Figure 8-4. Battery Energy Storage System Concept

Source: PG&E, 2021b, modified.

Liquified Air. This emerging ESS technology utilizes outside air that is cooled to become a cryogenic liquid, which is stored in low-pressure tanks. When energy is needed, the liquid is re-gasified, and the resulting air expansion operates an electric generating turbine. Currently this ESS technology has an energy density of 50 to 200 watt-hours per liter and an efficiency of 45 to 70 percent (Vecchi et al., 2021). A typical 50-MW system consists of a series of tanks that can vary in size to accommodate the available site acreage and the desired storage capacity. For example, a 50-MW liquified air ESS with tanks up to 100 feet in height would occupy approximately four acres (Highview Power, 2017). This ESS technology has a discharge duration of up to 10 hours.

Mechanical Gravity Energy Storage. This emerging ESS technology is based on the physics of pumped hydroelectric storage, but replaces water with custom-made composite blocks (i.e.,

mobile masses). Energy is used to lift these blocks up a tower (a current prototype is approximately 70 feet in height), at which point the system is charged. When the energy is needed, the blocks are lowered via gravity to create electricity through kinetic energy (O'Grady, 2021). Prototypes of this ESS technology generated up to 20 megawatt hours (depending on the system size) with an efficiency of 85 percent (Molitch-Hou, 2019).

Per legislative mandates set forth in Senate Bill 100 (2018), California is required to generate 60 percent and 100 percent of its electrical energy from renewable sources by 2030 and 2045, respectively.[67] Shifting to an increased reliance in renewable energy increases the need for energy storage to support grid reliability. Approximately 50 to 70 acres (range) may be available for battery (ESS) placement at the DCPP site, which may store up to 3,000 to 4,000 megawatts of energy based upon current technology (PG&E, 2021b). The Energy Storage System Concept was a part of the PG&E repurposing and reuse concepts (PG&E, 2021b). Additionally, the REACH vision is in support of battery storage as a part of their mixed-use concept (REACH, 2022a). Further, large-scale energy storage (i.e., 200 MW and higher) has been implemented at California coastal power plants, including 300 MW of lithium-ion battery storage installed at Alamitos Generating Station in Long Beach and 750 MW of lithium-ion battery storage installed to date in Moss Landing, California (Vistra, 2023). In addition, energy storage using different types of technology, such as flow batteries and liquified air, are being studied and designed for siting at Los Angeles Department of Water and Power coastal plants (i.e., Scattergood, Haynes, and Harbor).

8.6 Reuse Concept 5: Energy Research

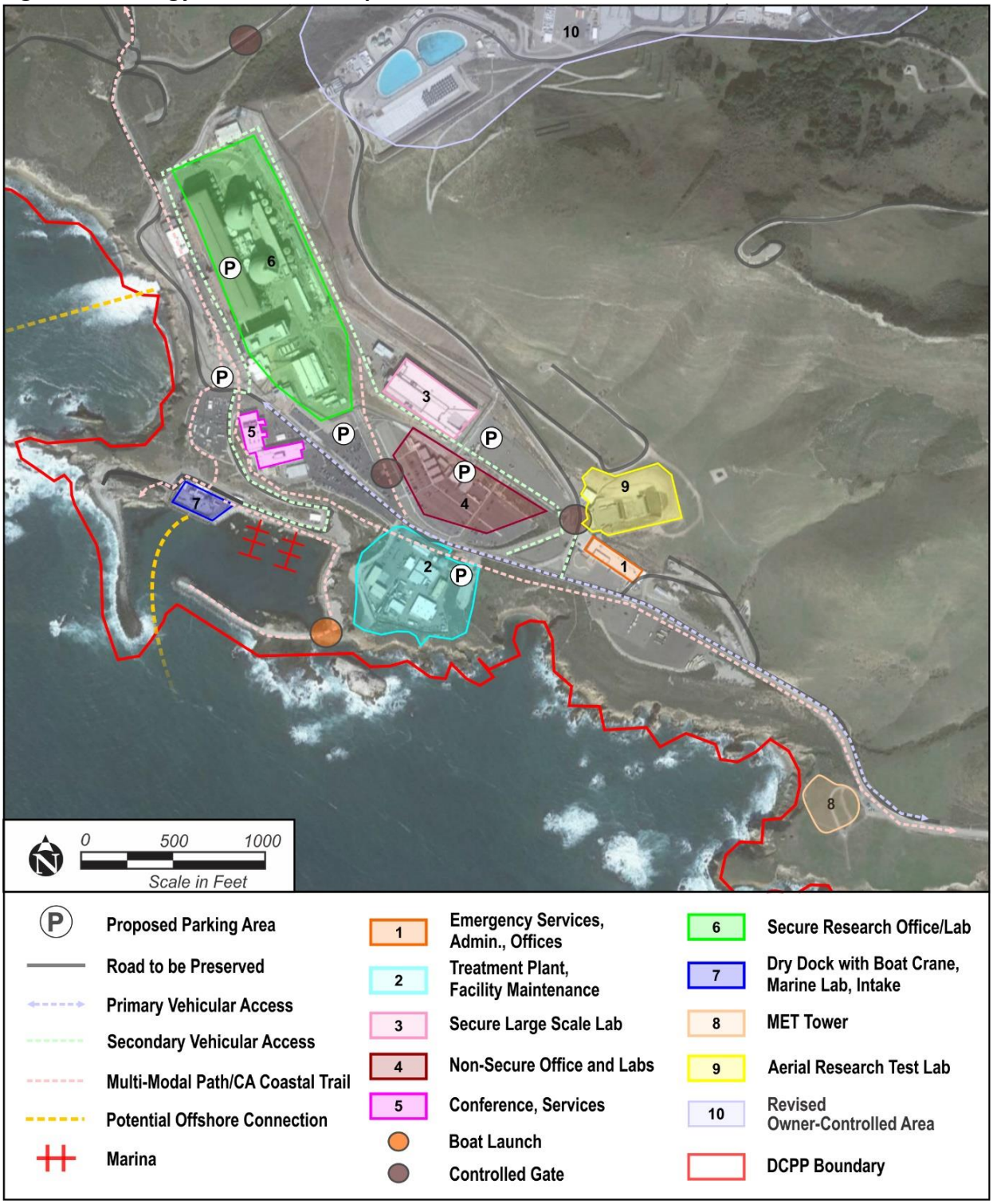
This concept would establish an energy-related research and development center at the DCPP site (see Figure 8-5). The Energy Research Concept would provide a location for professionals and students to collaborate on research in future clean energy sources and accompanying policy, infrastructure, and business models. The Energy Research Concept may be developed to serve a range of educational programs such as energy-related camps for elementary through secondary students, as well as research opportunities for university and graduate students.

This concept would not include the construction of on-site housing. Visitors to the research and development center would require overnight accommodations in the surrounding communities (e.g., Avila Beach, City of San Luis Obispo, City of Pismo Beach). Access to the research and development center would be provided by Diablo Canyon Road as it travels northwest from Port San Luis to the DCPP site.

This concept considers the potential for repurposing several of the DCPP buildings, specifically the 411,496 square-foot turbine building for Units 1 and 2; the 21,193 square-foot training building; and two warehouse buildings (122,749 square-foot Main Warehouse and 32,712 square-foot Warehouse B) (PG&E, 2021b and 2022). These buildings would provide both secure and open laboratory and office space to meet the needs of the various research teams. Space may also be provided for energy demonstration areas.

[67] Senate Bill 100 is officially titled "The 100 Percent Clean Energy Act of 2018" and codified as Chapter 312, Statutes of 2018, amending Public Utilities Code §399.11, 399.15, 399.30 and adding §454.53 to the Public Utilities Code.

Figure 8-5. Energy Research Concept



Source: PG&E, 2021b, modified.

The energy-related research and development center would remain a secure facility with gated entrances. Full-time staff would include on-site security personnel, facility maintenance personnel, and management staff.

The Energy Research Concept was a part of the PG&E repurposing and reuse concepts, which suggested the facility could provide a unique opportunity to create a place for research, education, idea exchange, and development of clean energy resources (PG&E, 2021b). Additionally, the DCDEP has supported the potential for a public-private collaborative research and development facility (such as a National Laboratory) with an emphasis on renewable energy development (DCDEP, 2022).

8.7 Reuse Concept 6: Central Coast Offshore Wind Area

This concept would use the DCPP site as a site to support the construction and operation of proposed offshore wind projects in the Morro Bay Wind Energy Area (WEA). In December 2022, the Federal Bureau of Ocean Energy Management (BOEM) hosted an initial lease sale for the Morro Bay and Humboldt calls areas. Three lessees received provisional leases for the Morro Bay WEA totaling 240,898 acres (two leases for a total of 132,369 acres were awarded for the Humboldt WEA) (US Department of Interior, 2022). Wind ports and other support facilities are necessary to provide a location to support a range of floating offshore wind development activities such as assembly, installation, operation, and maintenance of offshore wind turbines for the Morro Bay and Humboldt WEAs.

Several studies have been conducted in support of offshore wind off the California coast that address use of the DCPP site as a potential support facility. First, REACH commissioned a study prepared by Cal Poly San Luis Obispo and issued in April 2021, which evaluated the economic impact of offshore wind development on the Central Coast of California and found that developing up to 7 GW of offshore wind capacity in and around the Morro Bay WEA has the advantage of making use of the available grid interconnections in San Luis Obispo County through the existing transmission infrastructure at the DCPP and the Morro Bay Power Plant (REACH, 2021a). The retirement of the DCPP, which has a generation capacity of 2,256 MW, would free up an additional 6 GW of transmission capacity. Utilizing the existing transmission infrastructure at DCPP and Morro Bay Power Plant eliminates the cost of installing new transmission lines to deliver electricity from offshore wind turbines to the grid (REACH, 2021a).

In December 2022, REACH also published the "Central Coast Emerging Industries Waterfront Siting and Infrastructure Study" (REACH, 2022b). This study provides an overview of wind support facilities that could be developed along the Central Coast. The study determined that the Diablo Cove and Marina could support some operations and maintenance activities for offshore wind turbines that may be installed near Morro Bay. However, REACH found that "Developing a new marine terminal to support integration at this site is technically challenging due to steep cliffs, wave climate, shallow bedrock, and construction limitations due to [potential] continued operation of the power plant." However, the study evaluated the conceptual development of a large facility adjacent to the DCPP shoreline.

At the state level, Assembly Bill (AB) 525 (Chiu, Chapter 231, Statutes of 2021) requires the California Energy Commission (CEC), in coordination with the California Coastal Commission, Ocean Protection Council, California State Lands Commission (CSLC), Office of Planning and Research, Department of Fish and Wildlife, Governor's Office of Business and Economic Development, Independent System Operator, and Public Utilities Commission (and other relevant

federal, state, and local agencies as needed) to develop a strategic plan (AB 525 Strategic Plan) for offshore wind development in federal waters, which is due June 30, 2023 (Chiu, 2021).

In December 2022, the CEC released a draft AB 525 report describing a permitting roadmap, which is intended to align Federal, State, and local permitting processes as offshore wind development accelerates in the coming decades (CEC, 2022a). It also includes plans to support workforce growth and economic benefits as the offshore wind industry grows in California (CEC, 2022b).

In support of AB 525, in February 2023, the CSLC released a study "Alternative Assessment to Support Offshore Wind," the focus of which was to identify potential staging and integration sites (where offshore wind components are stored and assembled for towing to the offshore wind area), and operations and maintenance sites (where spare parts are stored and support vessels are moored for use during floating offshore wind operations) to support the Morro Bay WEA. The assessment identified the DCPP as a potential staging and integration site, ranking it 5th out of a short list of 11. It was also identified as one of 13 potential operations and maintenance wind port sites (qual, 2023).

Lastly, BOEM released the "California Floating Offshore Wind Regional Ports Assessment" also in February 2023, which evaluated existing ports and developed areas along the California coast. As with the CSLC study, it evaluated sites for staging and integration as well as operations and maintenance. However, the BOEM study also evaluated existing ports and developed areas for manufacturing and fabrication (where the larger components for floating offshore wind are created and stored). BOEM suggests that the DCPP site could be good candidate site for construction support and operations and maintenance but not for staging and integration or manufacturing and fabrication (BOEM, 2023).

The Central Coast Offshore Wind Areas Concept was developed in response to the above studies of potential future projects in the DCPP area. Given the location and infrastructure at the DCPP, it is feasible to use this area as a landing site for offshore wind if environmentally and economically practical. During a REACH workshop in December 2021, the concept of a Marina/Wind Port at DCPP received community support (REACH, 2021b and 2022a).

8.8 Reuse Concept 7: Institutional

This concept would develop the DCPP site to provide an institutional use such as a hospital system or mental health treatment center, Veterans Affairs facility, US Coast Guard training facility, NOAA facility, California Conservation Corps facility, a vocational training center, or other similar use. This concept would be established as a 24-hour occupied use and would require the development of housing and dining services. Access to the institutional facilities would be provided by Diablo Canyon Road as it travels northwest from Port San Luis to the DCPP site. See Figure 8-6 for the potential locations and uses of the DCPP site under this reuse concept.

Depending on the type of institutional use, daily site usage could range from a few hundred to a few thousand people. Facilities such as a hospital system or a Coast Guard training facility would require more extensive housing development than a vocational training center or other day-use facility. New construction would be required to accommodate housing under this concept.

Figure 8-6. Institutional Concept

Source: PG&E, 2021b, modified.

Many of the existing DCPP buildings and infrastructure could be repurposed under this concept, including the following (PG&E, 2021b, 2022):

- 411,496 square-foot turbine building;
- 28,219 square-foot medical facility that contains an electrical shop, telecommunications hub, offices, and medical equipment;
- Two warehouses: 122,749 square-foot Main Warehouse that contains storage space and offices and 32,712 square-foot Warehouse B that contains the DCPP Fire Brigade, offices, and storage of emergency back-up equipment;
- 151,408 square-foot administrative building that contains a cafeteria, gym facility, and a temperature-controlled area for computer equipment;
- 11,789 square-foot security office that contains conference rooms and office space;
- 21,193 square-foot training building that contains classrooms, offices, and a DCPP control room simulator;
- 41,624 square-foot machine shop that contains an overhead crane, electrical shop, weld shop, and administrative offices; and
- Approximately 406,100 square feet of parking area.

The Institutional Concept was part of PG&E's repurposing and reuse concepts (PG&E, 2021b). This concept assumes that a substantial number of existing buildings will be repurposed, which would reduce the dismantling and removal costs associated with those structures. As the current use of these buildings have similar attributes to institutional uses, they may require fewer improvements to convert their use under a new tenant.

8.9 Reuse Concept 8: Cultural and Historical Preservation

This concept would transfer ownership of a portion of the DCPP site to the Native American community to preserve sacred Native American sites. As discussed in Sections 4.5 and 4.6 (Archaeology and Built Environment, Tribal Cultural Resources, respectively), there are known cultural resource sites within the DCPP Project area, including a prehistoric village that is identified as an ancestral village by representatives of Native American tribes and the Federal government.

Under the Cultural and Historical Preservation Concept, any future use of the DCPP site would be sited, designed, and constructed in coordination with tribal representatives to avoid sensitive cultural resources (FODCL, 2021). This concept could allow portions of the DCPP site to be used by Native American tribes for meetings, gathering space, or ceremonies.

The DCDEP supports the preservation of Native American sites at the DCPP and has stated that the request for land ownership by the local Native American community should be acknowledged and considered as a valid claim for historical reasons (DCDEP, 2022).

9. Report Preparation Team and References

9.1 Lead and Responsible Agencies

County of San Luis Obispo (Lead Agency)

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Susan Strachan	Nuclear Power Plant Decommissioning Manager
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Jeremiah Damery	Environmental Health Specialist II

County Counsel

Jon Ansolabehere	Assistant County Counsel
Andrea Matarazzo	Pioneer Law Group

County Fire Department

John Owens	Acting Fire Chief
Tom Swanson	Assistant Fire Chief
Garrett Veyna	Battalion Chief
Kevin Mclean	Acting Fire Marshal
Dell Wells	Fire Captain, Deputy Fire Marshal

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California State Lands Commission (Responsible Agency)

(Names Withheld)

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National Marine Fisheries Service

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Nuclear Regulatory Commission

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Gerard Jackson	Security Specialist - Transportation
Maurice Heath	Project Manager

Tribal Governments

Coastal Band of the Chumash Nation

Mariza Sullivan	Chairperson
Michael Khus-Zarate	Designated CBCN Representative for AB52 consult

Northern Chumash Tribal Council

Violet Sage Walker	Chairperson
Fred Collins	Chairperson (at time of initial consultation)

Santa Ynez Band of Chumash Indians

Kenneth Kahn	Chairperson
Sam Cohen	Governmental Affairs and Legal Officer
Wendy Giddens Teeter	Santa Ynez Band Archaeologist

yak titʸu titʸu yak tiłhini – Northern Chumash Tribe San Luis Obispo County and Region

Mona Olivas Tucker	Chairperson
Scott Lathrup	Legal Representative

9.3 Professional Consultation Team

Aspen Environmental Group (Prime)

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Rachael Dal Porto, MS	Air Quality, Greenhouse Gas Emissions, Energy
Chris Huntley	Terrestrial Biological Resources, Jurisdictional Delineation Report
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Justin Wood, MS, CFB	Jurisdictional Delineation Report
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Negar Vahidi, MPA	Land Use, Planning, and Agriculture; Environmental Justice; Potential Site Reuse Concepts
Tatiana Inouye, MESM	Aesthetics; Land Use, Planning, and Agriculture; Potential Site Reuse Concepts
Stanley Yeh, MPA	Hazardous Materials (non-radiological)
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Stephanie Tang	Executive Summary, Public Services and Utilities, Wildfire, Other CEQA Sections
Irene Kaufman, MS	Potential Site Reuse Concepts
Avery Robinson	General project support
Christopher Notto	GIS/EIR Figures
Kati Simpson, CGDP	Graphics/EIR Figures

Anchor QEA

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